



Bulletin of the

NATIVE PLANT SOCIETY OF OREGON

Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

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CHAPTER NEWS

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. As we are often in the position of asking them to follow their rules and regulations for conservation of our natural resources, it's time for us to do the same. Each group using wilderness must be no larger than 12.

Blue Mountain

7 Jan., Mon.

MEETING. 7:30pm in Room 130, Morrow Hall, BMCC. Marilyn Cripe will present her slide show from her latest travels in Venezuela and Peru.

Corvallis

14 Jan., Mon.

MEETING. 7:30pm at the Herbarium Library (Room 4083 Cordley Hall, OSU). Our guest speaker will be Dr. Peter McEvoy speaking on the "Ecology and Biological Control of Invading Species".

Emerald

14 Jan., Mon.

MEETING. 7pm at Westmoreland Community Center, 1545 W. 22nd. Terri Jones will speak on "Non-forested Wetlands of the Willamette National Forest".

19 Jan., Sat.

FIELD TRIP. Ever been at a loss naming that oh so familiar looking shrub or tree without its summer foliage? Join Rhoda Love for a short day of winter tree and shrub ID at Mt. Pisgah arboretum. Twig keys will be provided. Depart from the South Eugene High School parking lot at 10am. Bring handlens and pocket knife. For more info call Rhoda Love (345-6241).

16 Feb., Sat.

FIELD TRIP. Join Dave Wagner for a study of the lush diversity of bryophytes and ferns within the mist-shrouded conifers of Fall Creek. Learn the common mosses, lichens, and liverworts of this magnificent forest. Depart from the South Eugene High School parking lot at 9:30am. Bring lunch, handlens. For more info call Dave Wagner (346-3033).

High Desert

For information, call Bill Hopkins (388-7434).

Mid-Columbia

2 Jan., Wed.

MEETING. 7:30pm at the Mosier School. Jerry Igo will present his latest video production "Seasons in the Gorge", postponed from December.

6 Feb., Wed.

MEETING. 7:30pm at the Mosier School. Mary Jean Sargent will present "Wildflowering in Western Australia", a selection of slides from her last visit there.

North Coast

Portland

8 Jan., Tue.

For information, call Sallie Jacobsen (842-4350).

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. "I apology for straying from the normal practice of having slides specifically on native plants. This month we will be getting back on track with George Lewis. He will be showing slides on a single plant family thru May 1991. Our meeting programs will be based on plant families or plant ecosystems."

---Tom Cherick Jr., 1st Vice President.

Siskiyou

10 Jan., Thurs.

TURN TO the article on page 4 about Portland's important Lecture Series this February.

MEETING. 7:30pm in Room 171 of the Science Bldg. at Southern Oregon State College. Dr. Darlene Southworth, professor of biology at SOSC will speak on *Limnanthes* as a new crop for Oregon based on the study of embryo culture and seed selection for high oil content.

South Coast

For information on formation of this pending chapter, contact Jim Curran (396-4939).

Umpqua Valley

10 January, Thur.

MEETING. 7pm, Room 131, Douglas County Courthouse, Roseburg, Oregon. 1990 botany programs on the Umpqua National Forest and the Roseburg district BLM. Plant ID sketch of broadleaved evergreens, field trip reports.

12 January, Sat.

FIELD TRIP. Examine different plant communities around Irwin Rock out Ten Mile off Hwy 42. Meet 8am in the BLM parking lot, 777 Garden Valley Rd., Roseburg. Leader: Richard Sommer (673-3709).

Willamette Valley

21 Jan., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. "Favorite Flower Slides and UFO Night". Members are encouraged to bring their own favorite slides in addition to slides of any unidentified flowering objects. Refreshments provided.

William Cusick

For information, contact Karen Antell (963-0267).

STATE BOARD TO MEET JAN. 26TH

Ever wonder how the Native Plant Society of Oregon manages its diverse statewide activities? Your next chance to see our far-flung State Board organization in action is January 26th. All NPSO Board meetings are open to the public and members are encouraged to attend and participate. The meeting will be at 10am at OSU in Room 2087 at Cordley Hall (On Orchard Ave. between 27th and 30th, across from Oceanography). Bring a sack lunch; beverages and snacks will be supplied.

Please send **AGENDA ITEMS** to President Stephanie Schulz by Jan. 10th.

The voting members of the State Board of the NPSO include State Officers, Chapter Presidents, and the Directors of the organization. The number on the State Board varies but currently is 22. A quorum is needed at each meeting to conduct business. Each Board member has a report to make on the activities they direct or oversee, as do all state committee chairs. In an organization such as ours communications are essential in carrying out our purposes and in reaching our goals. Attendance by all Board members is needed to assure the clearest communications possible within our organization. If Board members or committee chairs cannot attend, they should either send a representative or submit a written report to the secretary before the meeting.

1991 "WISE USE OF NATIVE PLANTS" AWARDS PROGRAM

The Native Plant Society of Oregon is requesting entries and nominations for the 1991 "Wise Use of Native Plants" Award. Entries can be made in any of the six following categories:

- 1) Restoration, rehabilitation or enhancement of native plant sites.
- 2) Sensitive or innovative management of native plant sites.
- 3) New designed sites/gardens using native plants.
- 4) Outstanding achievements in propagation or production of native plants.
- 5) Outstanding research, education or writing regarding the conservation, restoration, propagation and wise use of native plants.
- 6) Outstanding partnerships or cooperative ventures to promote the wise use and propagation of native plants.

NPSO: A HISTORY

In 1991 our Society celebrates its 30th birthday. It seems fitting that we observe this occasion by collecting the stories of our founding and growth. This collection will be published in either the NPSO *Bulletin* or *Kalmiopsis*. We will try to document the history of the Society as a whole and of each chapter. I will serve as coordinator of this project.

Each chapter should send me a written history of the founding of the chapter. Topics such as who were the organizers, when did it occur, who were the first officers, and any interesting stories surrounding our beginnings are encouraged. The amusing things that happened and the human interest anecdotes are what makes our saga even more readable. I'd like each chapter president to take the responsibility of collecting this information or delegating it to an interested member.

I would also like each charter member of the original Portland Chapter founding in 1961 to send me their recollection. I need to receive this information over the next month or two. Please call me for questions or comments.

---Stu Garrett
1501 NE Med Center Dr.,
Bend OR 97701
(389-6981 eves)

Judging will be done by a committee approved by our president, Stephanie Schultz. Evaluations will be based on ethical plant sources, ecological fitness or appropriateness for a site, success rates, creativity, understandability and accessibility, as appropriate to the entry.

Nomination forms can be obtained by writing or calling Kathy Schutt at 1880 W. Nob Hill St., SE, Salem, OR 97302. Final entries must be postmarked by January 31st. The awards will be given at the February Cascadia Conference in Portland.

---Kathy Schutt, Willamette Valley Chapter

NO MOO AT MOUNT PISGAH TOO?

Cattle may be mooing off Rooster Rock State Park but they are still out at Buford Park a 2235 acre public park in Land County outside Eugene. Bob Keefer, the new County Parks director, recently agreed to conduct the first resource inventory there since the Park was established 17 years ago, including a study of botanical values.

A large population of federally endangered *Lomatium bradshawii* was found at the park and fenced off in June, 1990. *Aster vialis* is known to occur on the summit of Mount Pisgah, where it is doing poorly due to browsing. *Mimulus cardinalis* is only known from riparian zone herbarium records, from collections in the 1970's by Georgia Mason. Most intriguing is the northernmost surviving community of the shrub *Ceanothus cuneatus*: Will wildflowers in the understory mimic those found in this association further to the south?

Restoration could be possible if Lane County halts the grazing when the lease extension expires June 30th. The challenges are similar to those at Bald Hill in Corvallis: a huge seed bank of exotic annual grasses and vexations populations of blackberry, thistle, poison oak, tansy, and Scotch broom in areas of cattle disturbance. Volunteers are needed this spring for the plant inventory!!! If interested, please contact:

---Tom Pringle
Emerald chapter
POB3429, Eugene 97403 (484-0669)

NPSO 1991 ANNUAL MEETING, JUNE 14-16: MONTHLY UPDATE

ANNUAL MEETING PLANS: Emerald Chapter members under the direction of Charlene Simpson, Annual Meeting Chair, are hard at work on plans for NPSO's big 30th Birthday Annual Meeting in Eugene. We hope that you put the dates Friday, Saturday and Sunday, June 14, 15 and 16 on your calendars as soon as you saw our first notice in your December *Bulletin*. If you didn't please do that now.

REGISTRATION MATERIALS: We had promised to include registration materials in this January *Bulletin*, but we need a bit longer to prepare the forms. Look for registration forms early in 1991. Meanwhile, make plans to attend.

SATURDAY NIGHT BANQUET SPEAKER: Dr. Linda R. McMahan, Executive Director of Portland's Berry Botanic Garden will be our speaker. Her topic will be "Conserving Plant Diversity: Challenge for the 90's." You will all want to hear Dr. McMahan address a topic on which she is a recognized global expert.

POSTER SESSION: Something New! Emerald Chapter asks that each Chapter bring one or more posters for a Saturday night pre-banquet Poster Session. Emerald Chapter suggests the following as possible poster topics: History of your chapter, R and E plants of your region, one or more chapter activities, an important chapter conservation project, one or more chapter field trips, or any other topic of your choice. Chapters are not limited to a single poster. Hopefully, posters will include photos, perhaps maps, and explanatory and/or educational material. Your posters can later be used at flower shows, fairs, celebrations and other activities in which your chapter takes part. Please show the NPSO 30th Birthday spirit and join in this new NPSO activity.

Questions? Look for more Annual Meeting information in the February *Bulletin*. For information about the poster session, call Rhoda Love, 345-6241. If you have general Annual Meeting questions, please call Charlene Simpson, 465-1059, or Jenny Dimling, 343-3242. See you all in Eugene in June!

---Rhoda Love,
Emerald Chapter
State Conservation Co-Chair

LECTURE SERIES TO BE BROADLY SPONSORED

The Portland Chapter, along with Berry Botanic Garden, Leach Botanic Garden, Portland Arboretum, Audubon, Metro, and the World Forestry Center, are all sponsoring a series of four lectures. These will take place on consecutive Wednesday beginning February 6, 1991. Each will cover a separate but related topic. The first will be an introduction to the global (and local) problems which are leading to losses in animal and plant diversity and ecosystems. The second will discuss animal and wetland species. The third will have a panel describing Metro green-spaces and creative ongoing programs. The final lecture will present ways to work together to find solutions to our environmental problems.

Mark your calendars for these four evening lectures. They will give a good working knowledge of our environmental problems. This year these lectures will replace our usual workshops. More information will be in next month's *Bulletin*.



Montia sibirica
Candyflower

Drawn by Herm Fitz

From NPSO Bulletin Feb. '82

NEIGHBORING NATIVE PLANT SOCIETIES

It is fun to look over our neighbor's fence and find out what's up. Almost all western states now have Native Plant Societies. All the states surrounding us have active ones. I'd like to tell you something about them and encourage your membership in them. Who knows, if we get to know one another well enough we may one day have "The Association of Western Native Plant Societies". (Rhoda Love, are you listening?)

CALIFORNIA NATIVE PLANT SOCIETY

Our younger but much larger (8500 members in 28 chapters) cousin to the south is, in my opinion, what all NPS's should aspire to be. They are strong advocates for rare species and biological diversity. They have a full time staff and sponsor a diverse education program. Their high-quality journal, *Fremontia*, is superb and an inspiration for our own *Kalmiopsis*. Each chapter has its newsletter and there's a statewide monthly announcement bulletin for their incredible array of activities. I've enjoyed being a member of the Bristlecone Chapter of Bishop on the east side of the Sierras. This chapter covers desert and water issues well. To join the CNPS send \$18 to 909 12th St., Suite 116, Sacramento, CA 95814.

WASHINGTON NATIVE PLANT SOCIETY

Our northern neighbors have nine chapters statewide. Their newsletter, *Douglasia*, is my favorite. Professor Art Krukeberg of UW edits it with erudition and a folksy style. His article selection is eclectic and always fascinating. He has a sense of humor and an occasional awful pun slips in. They are very involved in conservation issues, having served as the group mostly responsible for reducing exotic mountain goats who were eating rare species in Olympic National Park. The goats were captured and sent to Oregon's Blue Mountains! WNPS sponsors yearly Summer Study weekends and annual High Country Backpack. Send \$12 to WNPS, c/o Shelley Farber, 3625 Bagley Ave., N., Seattle, WA 98103, to join.

IDAHO NATIVE PLANT SOCIETY

Idaho is a recent member of the NPS club. They have four chapters and over 300 members. *Sage Notes* is their state newsletter and covers items of interest for Eastern Oregonians also. Their most recent recounted successful efforts to promote RNA's on USFS land. They sponsor the Idaho Rare Plant Conference each spring. Dues are \$8 to INPS, POB 9451, Boise, 83707.

NORTHERN NEVADA NATIVE PLANT SOCIETY Headquartered in Reno, they have no other chapters. They are an active bunch with frequent fieldtrips and are involved with conservation issues. Lots of ethnobotany is included in their newsletter. They seem quite concerned about assuring nursery propagation for the native plant suppliers in their area. You can become a member and receive their monthly bulletin by sending \$7.50 to NNNPS, POB 8965, Reno, NV 89507.

---Stu Garret
Eastside Conservation Chair
Immediate Past President



Habenaria diluvata
Boreal bowl orchid
Drawn by Herrn Fitz

From NPSO Bulletin Apr. '80

FIELD TRIP REPORT

The NPSO Bulletin said, "Explore Douglas County plant diversity". 11 people met at 8am at the BLM in Roseburg, then went east on Hwy 138 to Colliding Rivers, the old Glide Ranger Station, where we picked up guide Jack Price, district ranger retired, who gave us a quick tour of the arboretum, looking askance at exotics the Glide Garden Club planted. Saw native *Cercocarpus* sp., then east to Twin Lakes roadhead, 1.25 mile by trail to lake at 5000' S29T27R2E. Snow here and there. In a cool north-facing debris fan near the lake there was a grove of *Chamaecyparis nootkatensis* with little ones around. Lunch on the rocks. Down the trail to roadhead and out with stop by Weeping Rocks at Marsters Bridge to see a petrified standing tree in roadcut. What is it? On home with another tour of Glide arboretum to see *Cupressus arizonica*, *Cedrus libani*, and *Umbellularia californica*.

---Richard H Sommer, President
Umpqua Valley Chapter, NPSO

IT IS PAST TIME FOR THE US FISH & WILDLIFE SERVICE TO LIST OUR ENDANGERED APPLGATE'S MILKVETCH

It is time for Native Plant Society of Oregon members to express concern about our very rare Applgate's milkvetch, *Astragalus applgatei*. This plant has been waiting for Federal Listing as Endangered for a decade now. We have learned that the listing package was sent to the Portland office of the U. S. Fish and Wildlife Service from the Boise Field Station in April, 1989 -- almost 2 years ago. We understand that the Portland office is reviewing the proposed rule to list *Astragalus applgatei*, but has not yet submitted it to the Regional Solicitor's office. We want to encourage them to do this without further delay.

As Bulletin readers know, Oregon was one of the first states in the U. S. to complete a truly comprehensive list of its rare plants. The list contains approximately a hundred species that are in danger of becoming extinct if they do not receive the careful management considerations that Federal listing insures. We Oregonians know that in the continental United States, only California and Florida have a greater percentage of their flora in danger of extinction. It has been 18 years since the passage of the Federal Endangered Species Act of 1973, but in that time, only 3 of Oregon's nearly 100 threatened plants have received federal listing. That is 6 years per plant. At that rate it will take 600 years for Oregon's rare plants to receive protection! The last plant to receive federal protection in Oregon was *Lomatium bradshawii* which was listed in October, 1988 --over 2 years ago. Unless the speed of listing increases to at least several plants per year, Oregon's fragile flora will be decimated before the Federal Government takes the necessary steps to protect it.

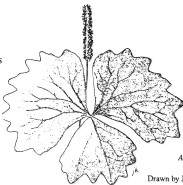
Astragalus applgatei is a plant of moist meadows in southern Klamath County. Presumably due to draining, agriculture and other anthropogenic changes to its habitat, the species' range has grown smaller so that the plant is now reduced to one reasonably-sized population inside the town of Klamath Falls and two tiny, and perhaps non-viable patches on the Miller Island Wildlife Management Area (WMA). If it could receive immediate federal protection, seed could be collected from the Klamath Falls population, and a management program could be undertaken to reintroduce the species to suitable habitat on the WMA and elsewhere in Klamath County. However, speed is of the essence, as the Klamath

Falls patch is under threat of development and without this seed source, it is virtually certain that *Astragalus applgatei* faces extinction. It was officially listed as Endangered by the State of Oregon on October 27, 1989.

Astragalus applgatei was discovered by long-time Willamette University botanist, Morton E. Peck, in the early-1930's and named for his friend and collecting partner, Elmer Ivan Applgate, member of the famous Oregon pioneer Applgate family. Peck published a description of the new milkvetch in the *Proceedings of the Biological Society of Washington* in 1936. With the passage of the Federal Endangered Species Act in 1973, plant records were searched in Oregon and it was discovered that no botanist had formally reported seeing Applgate's milkvetch since 1931. The plant was then searched for in Klamath County, and a few tiny patches were found. Unfortunately, these have been shrinking in size in the decade that this plant has been waiting for listing.

Time has almost run out for *Astragalus applgatei*. Please let the U. S. Fish and Wildlife Service, 1002 NE Holladay Street, Portland, 97232, know that as members of the NPSO, we hope to see *Astragalus applgatei* receive federal listing without further delay. Please send copies of your letters to Senators Hatfield and Packwood, and to your U.S. Representatives.

---Rhoda Love,
Emerald Chapter
State Conservation Co-Chair



Achylis triphylla
Moose Plant

Drawn by Julie Kierstead

1991 OFFICERS FOR THE BLUE MOUNTAIN CHAPTER

PRESIDENT---Jerry Baker, Route 1, Box 263,
Adams OR 97810-9704
VICE-PRESIDENT---Jeannie Jensen
SECRETARY---Vernice V. Irish

CONSERVATION CHAIR POSTS FILLED

The position of State Conservation Chair has been split into two positions, one for east of the Cascades and one west. Our immediate past president, Stu Garrett, accepted the Eastside Chair in September. Rhoda Love, who retired from the secretary's position last June, has accepted the Westside Chair. We hardly need say "welcome aboard" to these two longtime NPSO stalwarts, but thanks for their continued volunteer support of the Society is certainly in order.

The two State Conservation Chairs will be handling issues surrounding preservation of Oregon's rare and not so rare plants, their ecology, and related issues. If members run across any conservation issues that need attention, be sure to contact the appropriate Conservation Committee Chair. Their numbers are:

Stu Garrett
1501 NE Med Center Dr.,
Bend OR 97701
(389-6981 eves)

Rhoda Love
393 FulVue Dr.
Eugene OR 97405
345-6241

COLLECTING NEWBERRY'S GENTIAN?

In response to Tom Kaye's article on *Gentiana newberryi*, I congratulate Tom on clarifying the need to collect fruits of our Gentians, but collections, either in flower or fruit, of species on the Regional Forester's Sensitive Species list (one of which is *Gentiana newberryi*) is unlawful unless one receives a permit. Permits may be obtained from a USFS Supervisor's office or District Office. We need this information to monitor the health of our sensitive plant populations.

--Jennifer Dimling,
Willamette NSF Botanist



Cypripedium montanum

Mountain ladyslipper
Drawn by Herm Fitz

From NPSO Bulletin Apr. '80

NOMINATIONS CHAIR NEEDED

A volunteer for the position of Nominations Chairperson is needed. This position entails finding at least one person willing to run for each open position on the State Board and for each State Officer, getting ballot information to the *Bulletin* editor, and overseeing counting the ballots. Finding other committee members first helps spread the workload. Any interested parties should contact our president, Stephanie Schultz (485-1868).

GRANT PROPOSALS REQUESTED

The Native Plant Society of Oregon will continue to sponsor small research grants. The objectives of the program are:

- 1) to stimulate basic field research into the biology and distribution of Oregon's native and naturalized flora and vegetation, particularly in the more remote areas of the state, and
- 2) to promote native plant conservation through better understanding of Oregon's flora and vegetation and the factors affecting their survival.

Persons interested in applying for funding can obtain a copy of the program policy and guidelines from Dan Luoma, Research Grants Committee Chair, 2912 N. W. Arthur Ave., Corvallis, OR 97330. Research proposals will be due by March 1, 1991.

—Dan Luoma, Vice President NPSO

HOW THE SPOTTED OWL CAME TO BE LISTED AS ENDANGERED

From *Douglasia*, Newsletter of the Washington Native Plant Society, Vol. XIV, No. 4, Fall 1990, p.3.

Members and the general public have come to link the spotted owl with old-growth forests, with the beleaguered timber industry and with politics. We think it useful to let the USFWS's own words tell about the basis for listing the owl. We quote from the Endangered Species Technical Bulletin XV(7) for July 1990:

On June 22 [1990], the Service announced the decision to list the northern spotted owl as Threatened throughout its range. One of three spotted owl (*Strix occidentalis*) subspecies, this bird is found from southwestern British Columbia, Canada, through western Washington, western Oregon, and the Coast Range area of northwestern California south to San Francisco Bay. Approximately 2,000 breeding pairs have been located, although the total population is believed to number 3,000 to 5,000 pairs.

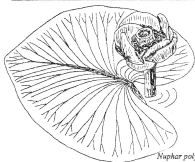
In making its listing decision, the Service found that the northern spotted owl is threatened by the degradation or loss of its habitat and the resulting decline in owl populations. Northern spotted owls occur primarily in old growth and mature forest habitats, but may also be found in younger forests that have the appropriate characteristics, such as: high canopy closure, large overstory trees, sufficient open space under the forest canopy for owls to fly, large accumulations of fallen trees and other woody debris on the ground, and numerous large snags or trees that have large cavities, broken tops, or other deformities. These characteristics provide nesting and perching sites for the owls, and support the animals upon which they feed. Most remaining northern spotted owl habitat is on public land managed by the US Forest Service, Bureau of Land Management, and National Park Service.

Radio telemetry studies indicate that northern spotted owls have relatively large home ranges. The extent varies with ecological conditions; for example, the median size of a pair's home range is about 3,000 acres in the Oregon Cascades but almost 10,000 acres on Washington's Olympic Peninsula. Although there are no reliable estimates of the subspecies' historical population size and distribution, spotted owls are believed to

have inhabited most older forests throughout the Pacific Northwest prior to modern settlement. However, most of these older forests no longer exist. Timber harvest is the primary factor responsible for the loss of habitat, but such natural events as fire, volcanic eruption, and wind storms have contributed to the decline.

In January 1987, the Service was petitioned by Greenworld to list the northern spotted owl as Endangered. Another listing petition was received in August of that year from the Sierra Club Legal Defense Fund, Inc., on behalf of 29 conservation organizations. The Service's initial finding that listing was not warranted at the time was challenged in court, and the court ruled against the Service. As a result, the Service reconsidered its decision. After additional information was received, a supplemental status review was completed, resulting in the Service's June 23, 1989 proposal to list the northern spotted owl as Threatened.

Due to controversy surrounding the management of old-growth forests in the Northwest, the Service conducted another status review that was unprecedented in scope and depth to ensure that the final decision on listing would be scientifically well-founded. According to the special Listing Review Team that was established to address the northern spotted owl issue, "Never before has so much been known about a species considered for threatened or endangered status".



Nuphar polysepalum
Pond lily

Drawn by Herm Fitz
From NPSO Bulletin Apr. '81

BITS AND PIECES

—News and Information From All Over

GORGE MANAGEMENT PLAN DEADLINE EXTENDED

The Forest Service has extended their deadline for comments on the Columbia River gorge National Scenic Area Permanent Management Plan for the Special Management Areas of the Gorge. The new deadline is January 31st, 1991. Final adoption of the plan is scheduled for March, 1991. Although it has many good features, it is vital to comment on this important plan now as several points need improvement to fully protect this irreplaceable asset.

A few examples are appropriate. One of the last stands of old growth ponderosa pine in the Gorge near Burdoin Mountain has unfortunately been proposed for agricultural zoning. Federal land near Larch Mountain has been designated forest land, potentially allowing highly visible logging along Larch Mountain Road. Regulations concerning forestry practice plans and approval of dwellings on agricultural and forest lands are not clearly defined, leaving them open to potentially adverse interpretation. Some areas with sensitive plant communities, such as near Greenleaf Basin, are proposed to be in a forest land designation rather than open space. Send comments to:

Jim Hurlburt, Manager
Columbia River Gorge National Scenic Area
US Forest Service
902 Wasco Ave.,
Hood River, OR 97031

Richard Benner, Executive Director
Columbia River Gorge Commission
PO Box 730
White Salmon, WA 98672

Further information is available from:
Friends of the Columbia Gorge
Tamra Lisy, Education Outreach Coordinator
319 SW Washington St., Suite 301,
Portland Or., 97204



Myosotis discolor
Scorpion grass
Drawn by Herm Fitz
From NPSO Bulletin Sept. '82

DESIGNING, MAINTAINING AND RESTORING THE NATIVE LANDSCAPE III

Cascadia Native Landscape Center is sponsoring a conference emphasizing wetlands restoration and management. The session will emphasize discussion and participation, and the experts attending will primarily be involved in discussions rather than presentations.

This is scheduled for Friday, Feb. 22nd, and Saturday, Feb. 23rd at Portland Community College's Rock Creek Campus. The keynote speaker will be William R. Jordan, editor of *Restoration and Management Notes* and a founding member of the Society for Ecological Restoration. A wetlands symposium follows with other discussions and debates concurrent. Friday will conclude with a nursery panel discussion on native plant production contracts. The Saturday session will see participants join small interdisciplinary design teams and analyze specific sites and develop plans and procedures for their restoration and maintenance.

For further information contact Mark V. Wilson (503-222-0134) or Tami B. Katz (503-236-0395).

17-MILLION YEAR OLD GENETIC CODE FOUND

Scientists have extracted fragile strands of DNA, the genetic code of life, from a 17-million year old magnolia leaf that was still green when it was found embedded in sediment in an ancient lake near Moscow, Idaho. The site consists of layers of clay that encase the remains of flowers, stems and leaves, insects and fish, that are exceptionally well-preserved because of the low oxygen content and cold temperatures of the water. Through the use of a new laboratory technique, polymerase chain reaction, scientists were able to compare the gene sequence of the leaf with that of a modern magnolia to see how it had changed over the years.

—From *Sego Lily*, Nov./Dec. 1990,
Newsletter of the Utah Native Plant Society



Cynoglossum occidentale
Houndsstonge
Drawn by Herm Fitz
From NPSO Bulletin Sept. '82

"Approaching the Public Land Management Controversy Holistically" is the theme of this conference. Several speakers, including ranchers who have been applying 'holistic' management practices, will give presentations. Dates for this are January 18th and 19th. Location is in LaGrande, Ore.

The 18th will be a one day short course on goal setting. The 19th will be spent developing an understanding of the controversy over public lands. Approaching this agenda non-confrontationally, the speakers will discuss some of the issues faced when dealing with public lands and introduce the role of holistic resource management.

For more information and registration contact Mary Forman at 503-489-3235 or Stacy Davies at 503-576-2454.

BLM RELEASES SAMS PLANNING DOCUMENTS

In December and January, six Western Oregon Bureau of Land Management districts will release Summary of the Analysis of the Management Situation documents. BLM's planners have incorporated the computerized Geographic Information System, which displays data as layered maps showing relationships between such things as timber stands by age class, rivers and streams and wildlife habitat areas. The data they have placed in the GIS and the subsequent SAMS document will provide the basis of subsequent steps in the planning process, including design of alternative actions and their environmental consequences. The SAMS documents will be available on request from each district office in January. BLM districts involved are Medford, Roseburg, Salem, Coos Bay, Eugene, and Lakeview District's Klamath Falls Resource Area.

These summaries will lead to the creation of Resource Management Plans which will guide BLM management in Western Oregon through the 1990's. The BLM wants public comment on the accuracy and completeness of the SAMS. Comment periods are one month. This is an important opportunity to have some influence on the development of BLM policy in the future. Such things as biodiversity have recently entered BLM's awareness, so there is certainly at this moment a chance to slip in a few more new ideas.

This annual event has become a favorite of desert conservationists from Oregon and beyond. It will be held April 25-28th, 1991 at Malheur Field Station near Burns, Ore. It includes field trips, workshops and presentations.

This year's theme is "Spreading the Word". The program is designed to inform, inspire, and empower participants to bring the natural values and the plight of desert wildlands to a broader audience. Topics include land use issues like mining and grazing, desert photograph and writing, natural and human history of the area, and environmental protection strategies.

Desert Conference is a grass-roots, volunteer-powered production. Fees are kept low to enable all to attend. Room and board are available at low cost at the Field Station. All participants must register in advance; for a form or more information call (503) 245-3658 or write: Desert Conference XIII
PO Box 15115
Portland OR 97215

POPCORN: REAL AND UNREAL

Mac's Place, a large mailorder Macintosh computer supply house, has begun packing all shipments in "Plain, unbuttered, unsalted, somewhat stale popcorn". The real popcorn has been substituted for the artificial styrofoam variety out of concerns over the environmental damage caused by styrofoam. Styrofoam releases ozone-degrading chemicals not just during manufacture but slowly for years afterwards while it steadfastly refuses to decay in the environment (much of that time seems to be spent blowing down streets). These are among the reasons why the City of Portland banned the stuff from fast food outlets and other places last year.

Real popcorn has the great advantage (over the unreal styrofoam kind) of quickly biodegrading, and is fun, not dangerous, to produce. Birds and squirrels will appreciate it, as will the compost pile. And, as Mac's Place states, "You can even string the popcorn on your tree".

Parnassia flimbriata
Fringed grass of Parnassus
Drawn by Herm Fitz
From NPSO Bulletin Aug. '82



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GUIDELINES FOR CONTRIBUTORS

The NPSO *Bulletin* is published monthly, as a service to NPSO members and the public. Contributions of all types are welcome. **Deadline:** Copy is due with the editor by the 10th of the month. **Text Format:** Submissions can be in any form. Camera-ready copy should be in 3.334 in. wide columns up to 9.3 in long, with spacing between columns .22 in. The *Bulletin* uses 12 point "Times" font. Author's name and affiliation are added at the end of the article. Double space between paragraphs, and do not indent paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article pasted inside their favorite field guide. **Computer Disks:** The editor prefers articles submitted on Macintosh

or IBM disks. Please contact the Editor for further details. **Illustrations:** Line drawings and high contrast B&W prints are useable. Contact the editor about our current needs, or send along with your article. **Credits:** If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the Editor's discretion. **Scientific Names:** Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use of both scientific and common names is encouraged. *Italicize* genus and species (underline if italic is not available). **Return of Originals:** Submissions will not be returned unless requested.

Membership in the Native Plant Society of Oregon is open to all. Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the MEMBERSHIP CHAIR.

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 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
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* DUES include monthly NPSO *Bulletin*. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() <i>Bulletin</i> Subscription only	\$12.00
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Mary Falconer, NPSO Membership Chair, 1920 Engel Court NW, Salem, Oregon 97304.

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OF OREGON**

Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

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CHAPTER NEWS

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. As we are often in the position of asking them to follow their rules and regulations for conservation of our natural resources, it's time for us to do the same. Each group using wilderness must be no larger than 12.

Blue Mountain

4 Feb., Mon.

MEETING. 7:30pm in Room 130, Morrow Hall, BMCC. Mary Corp, Umatilla County Weed Officer, will give a presentation concerning the County weed control program.

Corvallis

11 Feb., Mon.

MEETING. 7:30pm at the Herbarium Library (Room 4083 Cordley Hall, OSU). Our guest speaker will be Bob Meinke talking on "Review of Recent Field Activities of the Oregon Department of Agriculture's Endangered Plant Species Program".

Emerald

2 Feb., Sat.

FIELD TRIP --- "Horton Pond Revisited". A visit to Horton Pond aka Hult Reservoir to see if *Lycopodium inundatum* survived the draining of the pond. Leave from South Eugene High School (19th and Patterson) at 9am. Bring rain clothes, boots, lunch, drink. Leader: John Koenig (935-7677).

16 Feb., Sat.

FIELD TRIP. Join Dave Wagner for a study of the lush diversity of bryophytes and ferns within the mist shrouded conifers of Fall Creek. Learn the common mosses, lichens, and liverworts of this magnificent forest. Depart from the South Eugene High School parking lot at 9:30am. Bring lunch, handlens. For more info call Dave Wagner (346-3033).

High Desert

For information, call Bill Hopkins (388-7434).

Mid-Columbia

6 Feb., Wed.

MEETING. 7:30pm at the Mosier School. Mary Jean Sargent will present "Wildflowering in Western Australia", a selection of slides from her last visit there.

6 Mar., Wed.

MEETING. 7:30pm at the Mosier School. Roger Yerke, from the Portland Metro Zoo, will present the program "Ferns of the Northwest".

North Coast

14 Feb., Thurs.

MEETING. 7pm at the State Office Building, 3600 Third St., Tillamook. In keeping with the symbol for Valentine's Day, members are asked to bring information and/or specimens of native plants having heart-shaped flowers, leaves, etc.

FIELD TRIP to be announced.

Portland

12 Feb., Tue.

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. Tom Chereck will be showing native plant species of Oregon.

TURN TO page 23 for information about Portland's important Lecture Series this February.

Siskiyou

For information, call Darren Borgias (482-8196).

South Coast

For information on formation of this pending chapter, contact Jim Curran (396-4939).

Umpqua Valley

14 Feb., Thurs.

MEETING. 7pm in Room 216, Douglas County Courthouse Auditorium, Roseburg. A daisy workshop--The *Asteraceae* lead by Russ Holmes. For more information call Mary Carlson (672-3479).

16 Feb., Sat.

FIELD TRIP. A plant identification workshop. Leave from the BLM parking lot, 777 Garden Valley Rd., Roseburg. For more information call Mary Carlson (672-3479).

Willamette Valley

18 Feb., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. Mark Wilson will give a talk and video showing on Restoring Native Willamette Valley Wet Meadows.

18 Mar., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. Peter Frenzen, Mt. Saint Helens National Monument Botanist, will give a slide show and talk on revegetation of Mt. Saint Helens after the blast.

William Cusick

For information, contact Karen Antell (963-0267).



Synthyris reniformis
Snow Queen

Drawn by Esther McEvoy

THE PUZZLE OF THE TOFIELDIAS OF COOS COUNTY

There are so many things we don't know concerning the history and origins of Oregon's flora, that almost any group of species, when studied in detail, will offer one or more "puzzles" to an inquiring botanist. Sometimes the problem is whether a particular plant species is "native" to our state, or is "introduced"—the latter term usually implying that humans have acted as willing or unwitting agents for plant migration. Many species now happily growing "naturally" in Oregon were not members of the primeval, indigenous flora. Their homelands are elsewhere, but they are here now, thanks to mankind's activities as a disperser of plants. Most weeds fit this category, for example, along with cultivated plants that have "escaped" into nature (holly, daffodils, English ivy, periwinkle, and many others).

The genus *Tofieldia*, often called "false asphodel," is a north-temperate group of bog-inhabiting *Liliaceae*. Four species are currently recognized as occurring in North America; one of these, *Tofieldia glutinosa*, is found in Oregon. This species extends south well into California, north to Alaska, and east through Canada and the northern Rockies to the Atlantic, as far south as the mountains of Georgia. In Oregon, two subspecies (or varieties) occur: *ssp. brevisetula*, throughout the Cascades, and *ssp. occidentalis*, of the Siskiyou Mountains and California's Sierras. A revision of the classification of the species, done by Hitchcock in 1944, leaves no doubt that false asphodel is a true member of Oregon's native flora, long predating the existence of humans on this continent. Why, then, should the title of this article imply that something is puzzling about this species in Coos County?

Recently, while doing a routine study of *Tofieldia* specimens in the OSU Herbarium (in order to correct the annotated names on many older specimens that predate Hitchcock's 1944 publication), I noticed three collections from near Charleston, in Coos County, whose labels bore the name *Tofieldia occidentalis*. On one sheet, the walls of some of the capsules were torn open and the seeds inside were easily visible. I knew that the seeds of *Tofieldia* are a particularly important characteristic used to distinguish the two Oregon subspecies of *T. glutinosa* from the widespread one (called *ssp. glutinosa*) which grows from British Columbia and Alaska, across Canada and the upper Midwest, to the Atlantic Coast. I could

see that seeds of the specimens from Charleston were identical with those of *ssp. glutinosa*, not those of either "native" subspecies in Oregon! A seed of *ssp. glutinosa* is illustrated in "Flora of the Pacific Northwest," page 694; it has a tightly adhering seed-coat which extends from both ends of the seed as a long, twisted tail (appendage). Both *ssp. brevisetula* and *ssp. occidentalis*, on the other hand, have a loose-fitting, netlike seed coat, forming a kind of bag around the rest of the seed (also with an appendage, as in *ssp. glutinosa*).

When Dr. Hitchcock wrote his paper about *Tofieldia glutinosa*, he had not examined the seeds of any specimens from Coos County; he had only seen specimens in early flower, and from these one cannot distinguish between the several subspecies. Therefore, nobody before now has known that *ssp. glutinosa* occurs in that part of Oregon. So here is the *Tofieldia* puzzle: How did those plants get to the Oregon Coast in Coos County? They belong to a subspecies which until now was known on the Pacific Coast only from Vancouver Island north to Alaska, but which is common in the northeastern United States. Let me propose two possible answers to the puzzle and suggest how we might eventually decide scientifically which is the correct solution.

The *Tofieldia* populations in Coos County may be "native" there, existing as a southern extension of *ssp. glutinosa* that is disjunct from its main occurrences in coastal British Columbia and Alaska. This would fit the pattern of a number of other coastal plants, for example crowberry (*Empetrum nigrum*) and western swamp laurel (*Kalmia occidentalis*); such species may have migrated southward along the coast during glacial times, and have been left behind in isolated bog environments as the climate warmed and associated species migrated back to the north.

Alternatively, plants of *ssp. glutinosa* may have accidentally been introduced to the Charleston area by human activities—specifically, during the development of the cranberry industry. As early as 1855, cultivated cranberry bogs began to be established on the Oregon coast, including some sites in Coos County. Cranberries are propagated by cuttings, which were imported from the northeastern United States, e.g. from Cape Cod, Massachusetts (information from Art Poole, County Extension Agent, Coos Bay). It seems entirely

possible that rhizomes of *Tofieldia glutinosa* ssp. *glutinosa* could by chance have been included with the cranberry vines that were brought to Oregon. After all, it is a bog-dwelling plant that commonly grows with cranberries (*Vaccinium macrocarpon*) in many parts of New England.

In the two scenarios mentioned above, *Tofieldia* is either entirely native in Oregon, or is partly native (ssp. *brevistyla* and ssp. *occidentalis*) and partly introduced (ssp. *glutinosa*). These alternative possibilities could be resolved by careful genetic comparisons of the Coos County plants of ssp. *glutinosa* with plants from British Columbia and Alaska with samples from cranberry bogs in New England. Modern genetic techniques in taxonomy allow us to make molecular comparisons involving protein enzymes, as well as DNA--the gene-coding macromolecule found in cell nuclei and chloroplasts. The proteins and DNA of Coos County *Tofieldia* will either be most similar to those of British Columbia plants or to those of New England plants; whichever way it works out, we will have the answer to our puzzle.

Two of the specimens from Coos County which I studied were collected in 1926; the third was in 1946 ("Bog near Lighthouse Beach south of Charleston; July 17th"). No collections since 1946 have been seen, so it is very important to learn whether *Tofieldia glutinosa* still grows in that vicinity. The help of NPSO members is earnestly solicited in relocating this species. With living plants of it for study, we can hope to trace their history and migrations, and thereby answer this fascinating botanical puzzle.

--Ken Chambers, Corvallis Chapter

PORTLAND CHAPTER OFFICERS NEEDED

The Portland Chapter needs new people for all officer's position this year except for President. These positions requires a commitment to attend each monthly membership meeting (second Tuesday except in August) and a monthly half-hour officers meeting. Chapter President Mike Fahey will bring continuity to the executive board. Following is a brief description of the open positions.

1st Vice-President: Programs. This officer contacts potential speakers for slide, video or other presentations of interest for the monthly membership meetings. This officer also makes sure everything is ready for the speaker.

2nd Vice-President: Field Trip Coordinator. This officer contacts potential field trip leaders, and participates in as many field trips as possible. On occasion, coordination of joint field trips with other chapters or organizations is required.

Secretary: this officer tracks each member's and officer's meeting. The minutes need only be brief, one page or less.

Treasurer: This officer tracks the finances of the Chapter. This officer also is responsible for selling items for the Chapter at monthly member's meetings and other events.

Each officer is encouraged to locate volunteers to help with the Chapter's work. Anyone wishing to assist present or future officers can pitch in at any time!

--Tom Cherick, Jr.
1st Vice-President, Portland Chapter



Campanula scouleri
Scouler's harebell
Drawn by Julie Kierstead



Salix arctica
Arctic Willow
Drawn by Jeanne R. Janish
From *Flora of the Pacific Northwest*
by Hitchcock and Cronquist
University of Washington Press

THE NATIVE PLANT SOCIETY OF OREGON

Umpqua Valley Chapter

December 20, 1990

Robert Devlin, Forest Supervisor
Umpqua National Forest
PO Box 1008
Roseburg, Oregon 97470

RE: BOTANIST FOR UMPQUA NATIONAL FOREST

Dear Mr Devlin,
I am writing on behalf of the Umpqua Valley Chapter of the NPSO to express my concern that the Umpqua National Forest has no permanent botanist in the S.O. or in any of the Ranger Districts. The Umpqua National Forest has 31 sensitive plant species known or suspected to occur on Forest lands. One of these is listed as Endangered by the State of Oregon, 8 are Federal Candidates, and 4 are State Candidates. Some of these occur in forested habitats. All could be impacted by logging, road construction, or quarry operations. Most of the Umpqua National Forest has not been surveyed for sensitive plants and we suspect that the population trends of documented sites are for the most part unknown. Research or study needs to be conducted on at least two species included on the Forest's sensitive plant list (*Kalmiopsis leachiana* and *Allium bolanderi*).

The Forest Service is mandated to manage for multiple use. The NFMA specifically requires the Forest Service to manage for biological diversity. Forest Service policy (FS Manual 2670) requires consideration of sensitive plants in all NEPA compliance documents. With this in mind we would like to know the following:

1. How many acres in the Umpqua National Forest, by Ranger Districts, have been surveyed for sensitive plants during a time of year when positive identification could be made?
2. How many of the 89 and 90 timber sales were surveyed for sensitive plants during a time of year when positive identification could be made?
3. How many sensitive plant sites have been documented on the Umpqua National Forest?
4. How many of these documented sites are presently being monitored to determine population trends?

5. How many Species Management Guides have been prepared for Umpqua National Forest sensitive plants?

6. How many timber sales modified to protect sensitive plants have been monitored to determine if mitigating measures were adequate?

7. Is the Umpqua National Forest planning to hire permanent botanists in the S.O. and Ranger Districts? If so, when? If not, why not?

We look forward to your response and will be interested to see how yours EA's in FY 91 address sensitive plants.

Sincerely Yours,

Richard H Sommer, President
Umpqua Valley Chapter, NPSO

STATE FAIRGROUNDS NATIVE PLANTS

Anyone interested in volunteering to weed, plant or donate native plants for the State Fairgrounds, please contact Tom Cherick, Jr. (284-5156 evs or 378-2441 days). I hope to do plantings between March and May.

1990 RARE PLANT CONFERENCE NOTES

The biennial fall rare plant conference was held on November 30th and December 1st in Eugene and was quite well attended. It was especially encouraging to see the very large number of professional botanists who now work in the state.

In spite of reservations which some of those present expressed, the group agreed to a major reorganization of the lists which will appear in the next edition of "Rare, Threatened and Endangered Plants and Animals of Oregon". The result will make the booklet and lists more similar to the California Native Plant Society's format. I would like to take this opportunity to explain the changes, and some of their potential benefits and reasons for the change.

The most significant change was that List 3 from the last two booklets, entitled "Plants Rare Throughout Their Range But Currently Stable", was eliminated. The Review List has become

ACTION ALERT

List 3, and the Watch List (which is to be renamed something like "Species Which Are Vulnerable but Currently Stable") has become List 4. List 1 will remain as "Taxa which are Threatened or Endangered Throughout Their Range" with no distinction between Threatened or Endangered. List 2 remains "Taxa which are Threatened or Endangered in Oregon, but more common or stable elsewhere" with no distinction between Threatened or Endangered.

To accomplish this change, species which were formerly on List 3 were moved either to List 1 or to List 4, based on current information of their status. In the process of making this determination, the group generally gave the benefit of the doubt to the species. A few were moved to List 2, based on additional information from other states, and the Review List (now List 3) because of new taxonomic questions. Of the 62 taxa on List 3 in the 1989 book, 31 were moved to List 1, 8 were moved to List 2, 6 went to the Review List, and 17 went to the Watch List.

Eliminating List 3 made us make some difficult choices. Some local endemics were moved to the Watch List. With more than thirty new taxa being moved to List 1, there is a possibility that we have diluted the meaning and overall concern for List 1 species. Yet, I feel that even though we were forced to make some difficult choices, we created a list of species which currently need management attention and protection. The Federal and State Listed Threatened and Endangered species should represent the highest priority taxa in Oregon. As List 3 was historically defined, it was difficult for us to argue that federal and state agencies needed to manage for these taxa. With the new change, we have assured that all the Oregon or regional endemics which have existing threats (regardless of how minor some managers may feel they are), will continue to receive some management attention.

The Heritage Program, the Forest Service Regional Office and the State BLM office have sent copies of the proposed list changes to all of the conference attendees. If you did not attend, but wish to receive a list of changes, send a self-addressed, stamped envelope to the Oregon Natural Heritage Data Base, 1205 NW 25th Ave., Portland, OR, 97210.

---Jimmy Kagan
Oregon Natural Heritage Data Base

Your letters are needed to help stop a proposed windsurfing development that threatens the Squally Point Dunes. The dunes are located along the Columbia River west of The Dalles, near M.P. 80 on Interstate 84. Many characteristic dune plants are found there, including *Erigeron filifolius*, *Machaeranthera canescens*, *Erysimum occidentale*, *Oenothera pallida*, *Psoralea lanceolata*, *Rumex venosus*, *Polygonum majus*, *Oreobanche ludoviciana*, and others. Though by no means the largest in the Gorge, the Squally Point Dunes are the westernmost, and one of the few that are open to the public.

The intensive Squally Point development, proposed by windsurfers and associated commercial interests, would put as many as 1000 people at one time next to the dunes, day after day, year after year. The result over time would be extensive, if not complete, degradation of the dunes and their native plant and animal life. Keep in mind that windsurfers have already commandeered most of the river access sites in the eastern Gorge, such as Swell City, Spring Creek, Viento Park, Doug's Beach, Mayer Park, and others. Squally Point would be one more in a long list.

Since Squally Point lies in the Columbia River Gorge National Scenic Area, the decision in this matter is in the hands of the US Forest Service. The Forest Service decision in this matter will be influenced by your letters. Please write a short letter urging the Forest Service not to permit intensive recreational development at Squally Point. Tell the Forest Service that it is not worth jeopardizing the dunes just so that windsurfers can drive to one more beach. Write to:

Jim Hulbert, Manager
National Scenic Area
902 Wasco Ave.
Hood River, OR 97031

--Russ Jolley,
Portland Chapter

OREGON STATE PARKS PROPOSES NEW MANAGEMENT PLAN FOR ROOSTER ROCK STATE PARK

After the well-attended July 28th NPSO field trip to the Rooster Rock State Park wetlands, State Parks convened an ad hoc advisory committee composed of representatives from various groups, including NPSO, Portland Audubon, National Wildlife Federation, Columbia River Gorge National Scenic Area, range management specialists, and others. This committee met for a field trip and three consecutive monthly meetings.

Then, on November 8th, Oregon State Parks proposed a new plan for the wetland area south of I-84. Under the new plan, most of the area which has been grazed by cattle for the past fourteen seasons will now be completely off-limits to cattle. Disappointingly, the new plan still includes the option of cattle grazing to maintain 50 acres at the east end of the park as open meadow. The option of mowing would also be considered.

NPSO is urging State Parks to monitor the 50-acre area regularly over an extended period to determine if there is any actual need to control grass and trees. We feel that there would be no advantage to scenery, recreation, or wildlife in artificially maintaining this 50 acres as a pasture. Quite the reverse, in fact. For example, in the wetlands below Horsetail Falls, easily viewed from the Scenic Highway, the luxuriant 3-4 ft. high grass in the open areas adds to the scenic quality. Also, recreation trails through tall grass would be more interesting than trails across a pasture. Finally, tall grass is unquestionably more valuable for a wide variety of wildlife than a clover pasture could possibly be.

Nevertheless, State Parks' proposed plan is a tremendous step in the right direction, and one that NPSO can support. There are several other important features of the plan:

- 1) State Parks will suppress the huge blackberry patches in the pasture at the east end of the park, either by mowing or by use of herbicides.
- 2) An excellent trail system is proposed, primarily for hikers, but some sections may be suitable for bicycles as well. Volunteer help may be needed.
- 3) Unneeded fences would be removed. This probably will include all the interior fences which supposedly kept cattle out of certain wetland areas but generally did not do so. Another fence which should come down is the one separating

the grazed area from Mirror Lake to the west. The Portland Chapter of the NPSO would be happy to help take all these fences down as soon as possible.

Special credit goes to Marc Liverman of Portland Audubon, for coordinating the efforts of conservation groups, and to new Regional Parks Supervisor Jack Wiles, for tackling the whole question of management of these wetlands with an open mind.

--Russ Jolley,
Portland Chapter

HELLO NPSO MEMBERS:

I was the recipient of the Jean Davis Scholarship for the 1990-91 academic year. Having just finished my first term at Oregon State University, I'd like to introduce myself and also thank you for your help. As a full time student with a part time job, it certainly is a welcome addition.

Last year at Lane Community College was my first year back at school since attending the University of Oregon in computer science 10 years ago, and I intended to focus on animal wildlife. Then I had the good fortune of being required to take Botany. And along with the Botany course came Rhoda Love. What luck! Her enthusiastically shared knowledge and love of the Plant Kingdom led me to realize that without plants there would be no animals. And furthermore, in some cases its one special animal completely dependent on one special plant, and vice versa. Of course, I'd known this before, but I'd never really felt its impact.

Now that I do, and wanting to be as involved in this fascinating relationship as possible, I am developing a program, through the Independent Studies option offered by the Wildlife Department at OSU, which will give me a good background in both plants and animals. From there I hope to go on in a Master's program which focuses on the interrelationships between the two. That's the long term picture, but for now I'm just taking it one class at a time, and waiting impatiently for spring so I can take plant taxonomy again (of the world this time I hope).

Again, thank you for helping me toward this goal.

--Wendy Boyd

WESTSIDE CONSERVATION REPORT

I have attempted to plunge without delay into NPSO conservation issues since volunteering at the end of November to be state conservation co-chair. This article is an attempt to bring NPSO members up to date on some of the issues our society has been tracking and to give you names and addresses of some folks to whom you can write if you wish to make known our concerns or become more informed about the issues.

MOUNT ASHLAND SKI AREA EXPANSION PLANS

New lifts, roads and other construction are planned for the ski resort on Mt. Ashland. The mountain lies in the Rogue River National Forest and supports populations of a number of rare plants in which NPSO is interested. Our Siskiyou Chapter has studied the Forest Service's ski area expansion draft environmental impact statement, and done a masterful job of commenting on it. In eleven pages of well thought out suggestions, Siskiyou Chapter, under the leadership of Richard Brock, has asked for specific protection for 12 rare and unusual plant species including *Lupinus aridus* ssp. *ashlandensis*, *Horkelia hendersonii*, *Tauschia howellii*, 3 species of *Botrychium*, and some relict populations of alpine fir and Englemann spruce. Your state conservation committee has followed with a letter reiterating the important points made by Siskiyou Chapter, with copies to Hatfield, Packwood, De Fazio, John Buttrille of USFS Region 6, and others. If you wish to lend your support to NPSO's effort to encourage our Forest Service to take rare plants into consideration when developing recreational facilities, please write to any or all of the above or to Mary L. Smelcer, District Ranger, Ashland Ranger District, Rogue River National Forest, 645 Washington Street, Ashland, OR 97520.

ASTRAGALUS APPLEGATEI

As of this date (12-28-90), NPSO has received no answer to our 12-11 letter to William E. Martin, Regional Director, US Fish & Wildlife Service, protesting the slow pace of listing for *A. applegatei*. However, we did receive a December 21 letter from 4th District U. S. Congressman, Peter DeFazio, who has contacted the Director of the Fish and Wildlife Service in Washington, D. C., to ask about the delay. Congressman DeFazio thanks NPSO for keeping him informed about

this issue and promises to send us a copy of the Director's response as soon as it is received. Thanks, Peter! (Peter's address is: 1233 Longworth House Office Bldg., Washington, DC 20515.)

DARLINGTONIA CALIFORNICA

As you know, our beautiful insectivorous cobra lily is very heavily impacted by diggers who offer it for fast commercial sale. Since the plant seldom survives transplanting, this digging amounts to killing the plants for a "quick buck." Because *Darlingtonia*, though incredibly rare in a global sense, is still relatively abundant in coastal bogs and on serpentine seeps, there has been no possibility to petition to have it listed as threatened under the Endangered Species Act. However, there is a chance to have it included in the so-called Oregon Wildflower Protection Law (ORS 564.010 to 564.0400). This rather old law, which protects Oregon's native lilies, orchids, lewisias, douglasias, rhododendrons and azaleas, contains a convenient provision for adding species. I have written to the Oregon Department of Agriculture, petitioning that this be done. If you wish to add your voice to mine, please write to John Mellott, Administrator, Natural Resources Division, Oregon Department of Agriculture, 635 Capitol Street NE, Salem, OR 97310-0110.

THE OREGON REDWOODS

On October 8, I wrote to the Siskiyou National Forest asking that they protect the few remaining coast redwoods (*Sequoia sempervirens*) on the Siskiyou Forest in Curry County, and, most especially, that the Forest Service begin a program of restoring and recreating new redwood forests where these magnificent trees have been logged off. I accused the Forest Service of replacing high-diversity mixed redwood forests with Douglas fir monocultures. On November 30, I received a thoughtful reply from District Ranger Michael Frazier of the Chetco Ranger District in Brookings. I was quite pleased by a number of items in that letter. For example, late this summer redwood logging came to what I hope will be a permanent halt on the Siskiyou Forest. The few redwoods that remain in Oregon are, at least for the time, protected because they fall within an area recommended for spotted owl habitat conservation. NPSO must, however, keep a close eye on this situation, which could change very quickly. Much to my astonishment, Mr. Frazier informed me that some restocking with

redwoods has occurred on logged off areas in the Siskiyou forest. I must say that I saw none of this on my two trips through the area. However, Mr. Frazier frankly admitted that this restocking had been done with seeds from California. I feel that NPSO should ask that all future restocking be done using local genetic stock. I was most gratified to learn from Mr. Frazier that a seed orchard is being developed on the Chetco District and that a genetic study of Oregon's redwoods is now under way. I feel NPSO should both applaud and watch these programs carefully. An NPSO field trip will take place to see the Curry County redwoods in the spring of 1991. At present, we plan to make this a joint Siskiyou and Emerald Chapter trip. We will ask to visit the seed orchard and view some previously restocked areas. All NPSOers will be welcome on this trip. Watch for a notice of the date in a future Bulletin. If you wish more information about the Oregon redwoods, write to: Michael Frazier, District Ranger, Chetco Ranger District, Siskiyou National Forest, 555 Fifth St., Brookings, OR 97415.

---Rhoda Love
State Conservation Co-Chair
West Side Issues



Botrychium multifidum
Pumice grapefern
By David H. Wagner
From Wagner's 1991
Willamette Valley Calendar

RESTORATION AT CHICKEN CHARLIE FLAT--- A PROGRESS REPORT

In mid-1989, the Oregon Department of Transportation (ODOT) approved a Native Plant Society proposal to restore a 3.5 acre waste area along Interstate 84 with native plants. Located near Milepost 68, about five miles east of Hood River, the area remained much as it did at the end of freeway construction some thirty years ago---no trees and little other vegetation. The idea was to change the desolate area of packed rocks into something resembling a natural plant community typical of that part of the Columbia Gorge.

ODOT agreed to bring in the necessary soil---in this case "reject" gravel, full of dirt, while the planting and aftercare would be up to NPSO members and other volunteers. Our chief guideline would be that all plants used in the restoration would be natives which are found growing naturally within a one-mile radius of the site.

ODOT worked with the NPSO to develop the landscape plan shown here, calling for completion of the restoration in five phases, the first in 1990 and the last in 1994. This restoration plan was approved by the Columbia River Gorge Commission and the US Forest Service.

In addition to members of the Portland and Mid-Columbia Chapters of the NPSO, members of the Portland Garden Club have enthusiastically joined in the effort. They christened the area "Chicken Charlie Flat", because it is close to picturesque Chicken Charlie Island in the Columbia. A wide variety of plants, in the form of seeds, seedlings, cuttings, bulbs and plugs, have been installed, with a few more still to go in this coming March. All plant materials were collected in the Gorge, except for a portion of one species of seed. And five native species have volunteered.

**NPSO 1991 ANNUAL MEETING
JUNE 14-16: MONTHLY UPDATE--
FIELD TRIPS NOW BEING PLANNED**



(The University of Oregon)

Annual Meeting Plans: Emerald Chapter members under the direction of Charlene Simpson, Annual Meeting Chair, are working on plans for NPSO's big 30th Birthday Annual Meeting in Eugene, Friday, Saturday and Sunday, June 14, 15 and 16. Rooms are reserved in the University of Oregon dormitories and the Saturday night banquet will be served in elegant Gerlinger Hall, on campus.

Registration Materials: Watch for registration materials in your March Bulletin.

Poster Session: We hope each Chapter will bring one or more posters for a Saturday night pre-banquet Poster Session. Suggested poster topics: History of your chapter, R and E plants of your region, chapter activities or field trips, an important chapter conservation project, or any other topic of your choice.

Field Trips: The following field trips will be offered at the Annual Meeting:

TRIPS PLANNED FOR SATURDAY, JUNE 15:

**A. West Eugene Wetlands:
Willow Creek Preserve**

Visit a remnant Willamette Valley wet prairie which supports the federally listed *Lomatium bradshawii* and a number of other rare, beautiful species. Hear about management decisions and tools needed to keep these species flourishing. Level terrain which should be dry in June. Trip leader to be announced. Group limit: 15 people.

**B. Patterson Mountain Meadow,
Willamette National Forest**

Visit this beautiful meadow at about 4,000' elevation which supports a mass of blooming wildflowers and shrubs in mid-summer. Hear how the area will be managed by the USFS to protect its botanical values. Approximately one mile hike along level forest trail. Leaders: Jenny Dimling, USFS Botanist and Warren Pavlat, USFS Botanist retired. Group limit: 15 people.

**C. North Shore Road, Lookout Point
Reservoir -- Car Trip**

Botanical diversity is very high on the wet, south-facing cliffs of this "mini Columbia Gorge." We will drive from Westfir to Lowell with many stops to botanize. Leader: To be announced. No limit on number of participants.

**D. Coastal Bogs and Dune Wetlands
with TNC's John Christy**

We will visit wetlands near the Pacific Ocean. Bring hand lens and adequate footwear -- tennis shoes or hip waders. Prepare to get wet. Extra pair of shoes and socks recommended. This is a sensitive area; group limited to 8 people.

**E. Lane County Coast: Darlingtonia Bog,
Lily Lake, Baker Beach**

Details still to be finalized. We will see *Darlingtonia*, *Boschniakia*, *Lycopodium inundatum* and other plants of the coastal area. Leader to be announced. Limit (if any) to be announced.

F. Horse Rock Ridge, A BLM ACEC

We will visit this Bureau of Land Management Area of Critical Environmental Concern east of Eugene with Nancy Wogen, BLM Botanist. Plant diversity will be high. More details in the March Bulletin. Group limit: 10 people.

TRIPS PLANNED FOR SUNDAY, JUNE 16: (For those not attending our State Board Meeting)

G. Buford Park, Mount Pisgah

Tom Pringle will take us to a *Lomatium bradshawii* site and explain problems with grazing management in this Lane County Park.

**H. Open House at the UO Herbarium
with David Wagner**

**I. Open House at the Mount Pisgah
Arboretum**

Questions? Look for a full Annual Meeting schedule and registration forms in the March Bulletin. For information about the poster session, call Rhoda Love (345-6241). If you have general questions, please call Charlene Simpson (465-1059), or Jenny Dimling (343-3242). See you all in Eugene in June!

Will There be Life in the 21st Century?

Northwest Perspectives on Saving Plants, Animals & Special Places

Sponsored by The Native Plant Society Portland Chapter, Leach Botanical Garden,
The Berry Botanic Garden, Portland Parks and Recreation,
Portland Audubon Society, Metro and the World Forestry Center

Join us for an important series of public lectures and discussions on preserving biodiversity here in the Pacific Northwest.

Each week, noted scientists, civic leaders, authors and community activists will share their perspectives and expertise on the evening's topic. Admission is free and each program is open to the public.

Will There be Life in the 21st Century? will be held in the World Forestry Center's Cheatham Hall (formerly Forest Hall)—across from the Washington Park Zoo. There is ample free parking.

- | | |
|--|-----------|
| Wednesday, February 6 | 7:30 p.m. |
| The Global Crisis in Your Own Back Yard | |
| Wednesday, February 13 | 7:30 p.m. |
| The End of Wildlife | |
| Wednesday, February 20 | 7:30 p.m. |
| Saving Green Spaces in the City | |
| Wednesday, February 27 | 7:30 p.m. |
| Shaping the Future:
People and Projects Making a Difference | |

*For more information, please contact the Education Department,
World Forestry Center at 503/228-1367.*

BITS AND PIECES

—News and Information From All Over

BLM SENSITIVE PLANT SURVEY WORK

During the 1991 field season, the Eugene Bureau of Land Management District Office will be contracting out Sensitive Plant Survey work. The contract will be solicited in February and will be awarded in April. The work period will begin in late April and extend through July, 1991.

If you are interested in conducting on the ground rare plant surveys for the Eugene BLM District, please contact Betty Murdock, BLM's Contracting Officer, at (503) 683-6970, or write to her at the Bureau of Land Management, Eugene District Office, PO Box 10226, Eugene, OR, 97440.

WAGNER'S WILLAMETTE VALLEY NATURE CALENDAR

This charming and informative calendar is the creation of Emerald Chapter member David H. Wagner. This year's edition (he's been producing a calendar for the last eight years) focuses on the unusual grape-fern genus *Botrychium*, which, conveniently for calendar makers, has twelve species native to our state. The shaded line drawings and short notes on each species are excellent. Included are nature notes, garden hints, bird, mammal and plant activities, all appearing at the proper timing for our region in the calendar. The moon's phases and sunrise/sunset times are also incorporated.

Bloom times of a number of flowers are included, and timing of fish runs and whale migrations. Bird migrations are mentioned. So are some meteor showers. And valuable reminders of prime tomato planting time. These varied tidbits of local lore make this calendar something to refer to frequently over the course of the year. The calendar can be ordered from David Wagner, PO Box 30064, Eugene, OR 97403 for \$7.50 post-paid.

A line drawing taken from this calendar is reproduced on page 21 of this *Bulletin*.

SHARE WITH CHILDREN YOUR LOVE OF NATURE AT MOUNT PISGAH ARBORETUM

Each weekday morning from Earth Day (Apr. 22) to June 7, 1991, volunteer guides lead school children on nature walks at the Arboretum. This is the tenth year of this free educational program. 2,000 children will visit this year. We need additional volunteers to guide children down the trails and to staff the visitors center!

All volunteers receive free natural history training and educational materials courtesy of the Arboretum. Volunteers need to attend at least one indoor training session (March 12th and 15th, 9:30-noon at the Land County Extension Auditorium, 950 W. 13th St., Eugene) and two outdoor sessions (April 10th, 11th, 17th and 18th, 9:30-noon at the Arboretum).

Our training stresses ecology. We want to teach children about life cycles and adaptations of plants and animals, as well as about the interdependence of all life and how Nature's cycles can be affected by human activities. Most of all, we want guides who will inspire children by example to respect and cherish Nature. Volunteers will learn a variety of activities and games to teach children about Nature.

If you have further questions about the program, call the Education Coordinator Sharon Teague at the Mount Pisgah Arboretum Office (747-3317) on Tuesdays or at home (683-3663) anytime.

HIGH COUNTRY NEWS

Your editor recently received a copy of this bi-weekly paper. It reports on environmental issues in the western third of the nation—from the Front Range to the Pacific. Articles are thoughtful and of sufficient depth to provide a counterbalance to the reporting in your local newspaper. The copious illustrations support the articles well. Subscriptions are \$24 per year and can be had from *High Country News*, PO Box 1090, Paonia, CO. 81428.

STATE OFFICERS

DIRECTORS.....	Paula Brooks, John Christie, Tom Kaye, Barbara Mumblo, Kathy Schutt, Marjorie Willis
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WM. CUSICK (LaGrande) ..	Karen Antell..... Biology Dept., EOSC, LaGrande 97850; 963-0267

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GUIDELINES FOR CONTRIBUTORS

The NPSO Bulletin is published monthly, as a service to NPSO members and the public. Contributions of all types are welcome.

Deadline: Copy is due with the editor by the 10th of the month.

Text Format: Submissions can be in any form. Camera-ready copy should be in 3.334 in. wide columns up to 9.3 in long, with spacing between columns .22 in. The Bulletin uses 12 point "Times" font. Author's name and affiliation are added at the end of the article. Double space between paragraphs, and do not indent paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article pasted inside their favorite field guide.

Computer Disks: The editor prefers articles submitted on Macintosh

or IBM disks. Please contact the Editor for further details.

Illustrations: Line drawings and high contrast B&W prints are useable. Contact the editor about our current needs, or send along with your article.

Credits: If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the Editor's discretion.

Scientific Names: Nomenclature should follow *Flova of the Pacific Northwest* by Hitchcock et al., when appropriate. Use of both scientific and common names is encouraged. *Italicize* genus and species (underline if italic is not available). **Return of Originals:**

Membership in the Native Plant Society of Oregon is open to all.

Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the MEMBERSHIP CHAIR.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____ Chapter (if known) _____
 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
 City _____ State _____ Zip+4 _____
 Phone (Home) _____ (Work) _____ City _____ State _____ Zip _____

* **DUES** include monthly NPSO Bulletin. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() Bulletin Subscription only	\$12.00
() Student.....			\$ 8.00	() Sustaining.....	\$ 30.00
() Regular.....			12.00	() Patron.....	100.00
() Family Membership.....			18.00	() Life Member	500.00

* CONTRIBUTIONS:

Jean Davis Memorial Award Fund.....	\$ _____
Leighton Ho Memorial Award Fund.....	\$ _____
Rare and Endangered Plant Fund.....	\$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:

Mary Falconer, NPSO Membership Chair, 1920 Engel Court NW, Salem, Oregon 97304.

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Send change of address notices to:
Native Plant Society of Oregon
Mary Falconer, Membership Chair,
1920 Engel Court NW,
Salem, Oregon 97304

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Bulletin of the

NATIVE PLANT SOCIETY OF OREGON

Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

VOLUME 24 NUMBER 3

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ISSN 0884-599

OUR 30TH ANNIVERSARY YEAR

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. As we are often in the position of asking them to follow their rules and regulations for conservation of our natural resources, it's time for us to do the same. Each group using wilderness must be no larger than 12.

Blue Mountain

4 Mar., Mon.

MEETING. 7:30pm in Room 130, Morrow Hall, BMCC. Vickie Erickson, Forest Service geneticist on the Umatilla National Forest, will give a presentation concerning tree improvement on the Forest. We will also plan our spring and summer field trips.

Corvallis

For information, call Nancy S. Weber (753-9626).

Emerald

9 Mar., Sat.

FIELD TRIP. Travel to the upper Siuslaw River near Lorane to view the intriguing Oregon fetid adder's tongue, one of our earliest blooming spring wildflowers. *Scolopos hallii* is a lily family member with a penchant for moist streamside habitats. Depart from South Eugene High School parking lot (NE corner) at 10am. Bring handlens, rain clothes, lunch, drink. Leader: Charlene Simpson (465-1059).

11 Mar., Mon.

MEETING. 7pm at the Kennedy Middle School, Bailey Hill Rd. and West 18th. Dave Wagner will talk about "The plants and politics of Alton Baker Park".

30 Mar., Sat.

FIELD TRIP to Kentucky Falls, Coast Range in the Siuslaw National Forest to view early spring flora. We will visit both upper and lower falls via a well maintained trail of moderate difficulty. These little known but spectacular falls harbor a variety of riparian flora among rugged outcrops and moss covered boulders. Please bring sturdy walking shoes/boots, hand lens and lunch. Depart from South Eugene High School parking lot (NE corner) at 9am. This will be an all day trip. Leader: John Koenig (935-7677).

27 Apr., Sat.

FIELD TRIP: Curry County Redwoods. Joint trip with Siskiyou Chapter. All NPSO members welcome. Representatives of Siskiyou National Forest will take us to Wheeler Creek Redwood RNA, to the Redwood Nature Trail, to the northernmost redwoods on Snaketooth Ridge and to see some fine remaining old growth redwoods on Peavine Ridge. Overnight camping available at Loeb Park and at the Redwood and Winchuck Campgrounds on the National Forest. Meet at Chesco Ranger Station, 555 5th St., Brookings, at 10am. Wear hiking gear and bring lunch and drink. For more information call Rhoda Love, 345-6241.

High Desert

For information, call Bill Hopkins (388-7434).

Mid-Columbia

6 Mar., Wed.

MEETING. 7:30pm at the Mosier School. Roger Yerke, from the Portland Metro Zoo, will present the program "Ferns of the Northwest".

3 Apr., Wed.

MEETING. 7:30pm at the Mosier School. Bill Weiler, Wildlife Biologist for the Washington State Dept. of Wildlife in Yakima, will present the program "Oregon White Oak: Its Biology, Uses, and Conservation Strategies".

North Coast

14 Mar., Thurs.

MEETING. 7pm at the State Office Building, 3600 Third St., Tillamook. Ron Exeter of BLM will speak on native grasses.

FIELD TRIP --to be announced. For more information call Jean Gilbert (842-4801).

Portland

12 Mar., Tue.

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. Tom Chereck will be showing native plant species of Oregon.

17 Mar., Sun.

FIELD TRIP for early flowers of the East Gorge. Leave 8am from the 122nd and Sandy K-Mart lot. 2nd meeting at Hood River Inn at 9:15am. This will be a car caravan heading up Dry Creek Rd. and Chenoweth Rd. Leader is Jerry Igo. For information contact Elizabeth Handler (244-5320). Be prepared for ticks. Note: Our first Sunday Fieldtrip in years. Don't show up Saturday!

30 Mar., Sat.

FIELD TRIP to the flowers of Catherine Creek. Leave 8am from the 122nd and Sandy K-Mart lot. 2nd meeting at Hood River Inn at 9:15am. Leader is Barbara Robinson. For information contact Elizabeth Handler (244-5320). Be prepared for ticks.

Siskiyou

14 Mar., Thurs.

MEETING. 7:30pm in Room 171 of the Science Building at Southern Oregon State College. Gerry Capps, geologist for the Medford District BLM, will discuss the geological setting of the Table Rocks and the Rogue Valley and present his findings resulting from recent field studies.

27 Apr., Sat.

FIELD TRIP: Curry County Redwoods. Joint trip with Emerald Chapter. All NPSO members welcome. See the writeup under Emerald Chapter above.

South Coast

For information on formation of this pending chapter, contact Jim Curran (396-4939).

Umpqua Valley

14 Mar., Thurs.

MEETING. 7pm in Room 216, Douglas County Courthouse Auditorium, Roseburg. A daisy workshop—The *Asteraceae* lead by Russ Holmes. For more information call Mary Carlson (672-3479).

16 Mar., Sat.

FIELD TRIP. Explore coastal plant communities. Leave from the BLM parking lot, 777 Garden Valley Rd., Roseburg at 8am. An all-day trip of moderate difficulty (2 mile hike) to Blacklock Point, just north of Cape Blanco. Rendezvous at Sentry Mkt. parking lot in Bandon at junction of Hwys 42s and 101 at 10am. Please call 673-3709 for confirmation or Reg Pullen of the BLM at 756-0100.

30 Mar., Sat.

FIELD TRIP. This should be the right time to view endemic plant communities on Southern Oregon's Table Rock. Leave from the BLM parking lot, 777 Garden Valley Rd., Roseburg at 8am. Leader is Jack Hausotter (874-2462).

Willamette Valley

18 Mar., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. Peter Frenzen, Mt. Saint Helens National Monument Botanist, will give a slide show and talk on revegetation of Mt. Saint Helens after the blast.

William Cusick

For information, contact Karen Antell (963-0267).

NPSO 1991 ANNUAL MEETING, JUNE 14-16: MONTHLY UPDATE- REGISTRATION MATERIALS ENCLOSED

ANNUAL MEETING PLANS: Emerald Chapter members under the direction of Charlene Simpson, Annual Meeting Chair, are continuing to work on plans for NPSO's big 30th Birthday Annual Meeting in Eugene, **Friday, Saturday and Sunday, June 14, 15 and 16.**

Rooms are reserved in the University of Oregon dormitories and the Saturday night banquet will be served in elegant Gerlinger Hall, on campus. Banquet speaker will be Dr. Linda R. McMahan of the Berry Botanic Garden speaking on "Conserving Plant Diversity: Challenge for the 90's."

REGISTRATION MATERIALS: A registration form has been inserted in this Bulletin. Please fill it out now, enclose your check, and mail to Evelyn Everett, whose address is on the form. Don't forget to look at the back of the sheet and check the field trips of your first, second and third choice. You will receive a confirmation, however you may wish to xerox both sides of your registration form for your own records before mailing it to Evelyn.

POSTER SESSION: We are asking each Chapter to bring one or more posters for a Saturday night pre-banquet Poster Session. Suggested poster topics: History of your chapter, R and E plants of your region, chapter activities or field trips, an important chapter conservation project, or any other topic of your choice.

FIELD TRIPS: Our Annual Meeting Field Trip Chair is John Koenig (935-7677). John has scheduled 6 attractive trips with outstanding leaders for Saturday, June 15. Please refer to your February Bulletin for descriptions of these trips. Since most will go to fragile areas, **participation is limited.** Reserve your place by sending in your registration form and check today.

QUESTIONS? Look for a full Annual Meeting schedule in your April Bulletin. For information about the poster session, call Rhoda Love, 345-6241. If you have general Annual Meeting questions, please call Charlene Simpson, 465-1059, or Jenny Dimling, 343-3242. See you all in Eugene in June!

---Rhoda Love

STATE BOARD ELECTIONS NEXT MONTH

The Nominating Committee offers the following final list of candidates for the state board and offices. A brief resume is included with each candidate for consideration. Each of the officers have offered to serve another year. Three new Directors will also be elected to the Board this year. Election ballots will be included in the April *Bulletin*.

BOARD HOPEFULS

Bill Hopkins is a research ecologist with the Silvicultural lab in Bend. He has a doctorate in botany from Miami University. He is currently president of the High Desert Chapter. He has been nominated for Board Member at Large by Stu Garrett.

Warren Pavlat of Eugene has been a member of the Emerald Chapter since it was first organized. A retired USFS Forester and Range Conservationist Biological Scientist, he has kept involved through Forest Service contracts and volunteer programs. He established the Willamette National Forest Herbarium and still helps maintain it, as well as the Slide Herbarium.

Carolyn Wright of Dufer has worked professionally with various Threatened and Endangered plant programs over the past 15 years.

OFFICERS WISHING TO RETURN

President Stephanie Schulz. Stephanie has been a member of NPSO Emerald Chapter for seven years, serving as chapter Vice President and R&E Chair for two years and frequently attending state board meetings. She has a bachelors degree from University of Oregon in Landscape Architecture. She recently did volunteer work for The Nature Conservancy on a wetland/rare plant inventory. Stephanie has worked as a BLM seasonal T/E Botanist. One of her main interests is educating the public about appropriate, ethical uses of native plants in landscaping.

Vice President Dan Luoma. A Corvallis Chapter member, Dan served as State President for two years and also as President of his Chapter. He has been the chair of the state Grants & Budget Committee and a Director at Large. Dan recently received his doctorate from the Geography Department at Oregon State University. His thesis was on the ecology of truffles in Douglas-fir forests in the Western Cascades.

Secretary Sue Yamamoto Vrilakas, Portland Chapter. Sue is one of those rare people who is good at taking minutes. Rare plants have been a special interest of hers for years. She got a bachelors degree in biology from Lewis & Clark College. Sue assisted Jean Siddall in the Rare Plant Project. For the past 9 years she has been Data Manager/Botanist for The Nature Conservancy.

Treasurer Diane English, Emerald Chapter. She and her family have been active members since 1983. She served as president of the her chapter and enjoys learning about native plants. Diane studies biology at the University of Oregon. She has taken classes in bookkeeping and balances her own checkbook religiously.

OREGON DEPARTMENT OF AGRICULTURE: "ENDANGERED SPECIES PROGRAM" NOTES

The 1991 Oregon State List of Candidate Plant Species is complete. These are species not presently listed as Threatened or Endangered under state law, but which are being reviewed for such status. This list is equivalent to the Oregon Natural Heritage Program "List 1" and reflects data and information gathered at the Rare Plant Conference last fall in Eugene. This list is dated February 7th, 1991, and is not scheduled for another revision until 1992.

During the last NPSO Board meeting in Corvallis, there was apparently some confusion over the preferred name of our program. To lay the matter to rest, we are officially the Oregon Department of Agriculture *Plant Systematics and Conservation Biology Program*. Unofficially, we answer to any combination of names incorporating "endangered species", "conservation biology", etc. Anyone wishing a copy of the new State Candidate List may use whatever name they wish, as long as they get the address right: ODA, Natural Resources Division, 635 Capitol St. NE, Salem, OR 97310-0110.

---Bob Meinke and Tom Kaye

CYANIDE HEAP LEACH MINING

In 1991 the Oregon Legislature and the US Congress will be contemplating mining reform legislation. In the last few years more than 50,000 claims have been filed on federal lands in Southeast Oregon in order to mine gold. The cyanide heap leach mining process has many potential environmental problems. Even though the claims are on federal and private lands the mining industry must comply with state permitting systems and regulations. The mining industry lobbyists will want to have as few restrictions as possible in digging up out lands for gold. We must have strict regulations and ample public input about this potential devastation of the vegetation and environment of Southwest Oregon.

House Bill 2244 originated in the Oregon Department of Geology and is presently being studied. This bill provides for an environmental and economic evaluation process in connection with development of mineral resources. The bill also modifies the law with respect to mineral development application fees. The bill does not address revegetation but does call for "environmental evaluation" of the site, rather than just "baseline studies". This bill allows public input in three places in the permitting process. I suggest writing the Agriculture, Forestry, and Natural Resources Committee members who are scrutinizing this bill. Express the need for thorough unbiased scientifically sound environmental analysis of potential mining sites as a part of the permit process. Send the original of your letters to Rep. Walt Schroeder (committee chair), with copies to Reps. Liz VanLeeuwen, Sam Dorniny, Bill Dwyer, Tim Josi, John Meek, and Chuck Norris.

Currently the State of Oregon requires no Environmental Impact Statement (EIS) from mining companies. It is up to other agencies to do this. So far only one EIS is being prepared in Oregon in connection with cyanide gold mining, for the Vale District Bureau of Land Management. To express your concerns about cyanide gold mining by asking to be placed on the mailing list for the Grassy Mountain EIS. Write to BLM, Vale District, 100 Oregon St., Vale OR 97918.

Other bills pertaining to cyanide heap leach mining are in the State Legislature this session. One important bill will be the Oregon Environmental Council (OEC) bill. The next *Bulletin* will contain an update on this bill.

What else can you do? Write your congressional delegates and ask for reform and updating of the 1872 Mining Law to include environmental protection provisions. At nearly 120 years of age the laws need to be brought up to date. Write Mark Hatfield and Bob Packwood at US Senate, Washington, DC 20510; Congressman Les Aucoin (1st District, Bob Smith (2nd District), Ron Wyden (3rd District), Peter Defazio (4th District), and Denny Smith (5th District) at US House of Representatives, Washington, DC 20515.

OREGON RESOURCE CONSERVATION TRUST FUND

The Oregon Resource Conservation Trust Fund was legally created in 1989 but no funding method was made to carry out its provisions. House Bill 2347 proposes to do so. See the following article by Richard Holoch about this effort to make the potentially powerful Oregon Resource Conservation Trust Fund a reality. The NPSO State Board endorsed this legislative proposal at the January Board Meeting.

OREGON DEPARTMENT OF AGRICULTURE'S ENDANGERED PLANT PROGRAM

The 1991 Legislative session will have many budget cuts in programs. It is imperative that the Native Plant Society show strong support for the Oregon Department of Agriculture's Endangered Plant Species Program. We spent an enormous amount of energy getting this program in place and we must ensure it does not suffer debilitating cuts to its already tiny budget. We need to write letters and call in support of the program before March 10th, when the budget comes up before the Ways and Means Committee. The following points are some of the reasons why we need to continue to strengthen this program:

1. The program is operating efficiently within the Oregon Department of Agriculture and cooperates with the NPSO, federal agencies and state agencies from Oregon and elsewhere. The program has branched out to work with academia on many projects, developed many new lab and field research projects, and has helped co-sponsor the Rare Plant Conference.

2. This program is the only one in Oregon to use a biologically-based approach to rare plant conservation. Research conducted by the ODA program is important for the state in relation to pending natural resource issues for the 1990's, such as cyanide leach mining, grazing, and others. Our state needs a strong program because of the slow federal process for listing plants as endangered or threatened.

3. The funding of this program is woefully small compared to the funding of wildlife T/E programs in our state. The fieldwork is 90% supported by Federal grants and cost/share programs. Only a single full-time position has been budgeted to date. Despite the cuts by Ballot Measure 5 we must request maintaining the core program, and add an additional full-time position. It is vital that we request this additional position for field coordinating, computer work, and developing summer research work. A third position would really help the program carry out its purposes.

Take a few minutes in the next few days to write a letter about the Department of Agriculture's Endangered Plant Species Program. Original copies of your letters should go to the Ways and Means Committee since that is where the budget will be soon approved. Send copies to the Governor, Secretary of State, Director of ODA, Administrator of ODA Natural Resources Division and a copy to Bob Meinke. Do not forget it was Sen. Bill Bradbury who sponsored SB533 in 1987 which lead to the creation of this program!

Remember that if we want to have a strong state Rare and Endangered plant program, we must write today!

Esther McEvoy
Corvallis Chapter
State Legislative Committee Chair

ADDRESSES:

Senator Bill Bradbury, Co-Chair Ways and Means Committee
Representative Tony Van Vliet, Co-Chair Ways and Means Committee
State Capitol
Salem, OR 97310

Director,
Oregon Department of Agriculture
635 Capitol St., NE
Salem, OR 97310-0110

Secretary of State Phil Keisting
State Capitol
Salem, OR 97310

John Mellott, Administrator
Natural Resources Division
Oregon Department of Agriculture
635 Capitol St., NE
Salem, OR 97310-0110

Pyrola asarifolia
Drawn by Julie Kierstead



HABITAT CONSERVATION AND RECYCLING: THE RESOURCE TRUST FUND

What do habitat conservation and recycling have in common? In Oregon, thanks to public opinion and a new piece of legislation, they have each other in common.

A 1988 survey of Oregonians by the Intercept Research Corp. showed that the public favors balancing the impact of industrial activities that harm natural habitat through special revenue assessments to be used for habitat protection. In response to this survey, a unique coalition of conservation and business interests joined forces in early 1989 to find a constructive and sustainable solution to Oregon's growing problems of habitat loss and solid waste.

The result was the Oregon Resource Conservation Trust Fund—a bill that was successfully introduced to the 1989 Oregon Legislature, and signed into law by the governor. The Trust Fund's concept is the first of its kind in the nation, and may well become a model for addressing the nation's growing problems of habitat loss and solid waste.

In approving the Trust Fund, the Oregon Legislature directed the Joint Revenue Committee to explore a funding mechanism and make a recommendation to the 1991 legislative session. This directive has been acted upon in the form of House Bill 2347, introduced into the 1991 Legislature by the Joint Revenue Committee. HB 2347 would complete the task of launching the Resource Conservation Trust Fund in 1992 by establishing a fair, balanced revenue source between Oregon individuals and industries.

The Trust Fund's goal is to establish a \$300 million principal, from which ultimately will be spent only the interest from this dedicated fund to acquire fish and wildlife habitat areas, including rare and endangered plant habitat. Other monies, not used as principal for the Fund, will be spent on local and state parks projects as they involve habitat conservation, and on improving recycling—primarily by developing secondary markets for undervalued recyclable commodities. Local governments, state agencies, schools, private interests and groups (including the NPSO) would all be eligible to apply for Trust Fund project grants.

Adequate financing for the Trust Fund is crucial. Without effective funding, Oregon will have at best a second-rate habitat conservation program and an increasingly obsolete waste reduction program.

To take action supporting the Trust Fund: HB 2347 has been referred to the House Environment and Energy Committee (Chair: Fred Parkinson, R-Silverton) for a recommendation and subsequent action by the House Revenue Committee (Chair: Delna Jones, R-Beaverton), before referral to the full House of Representatives. **Write your legislator or elected state official**, urging them to support HB 2347 as a dedicated revenue source for the Trust Fund. A letter can be as brief as this:

Dear {Senator, Representative, or
elected state official}:
State Capitol
Salem OR 97310

Please support HB 2347 as a dedicated revenue source for the Oregon Resource Conservation Trust Fund.

Oregon must act now to conserve habitat and improve recycling, ensuring that our state will be a unique place to live in and visit for generations to come. Thank you.

Sincerely,
(your name and address)

The coalition of environmental and business interests supporting the Trust Fund has also arranged an opportunity for constituents to send a message to their legislators in support of the Trust Fund's revenue source. Contact Rich Holloch (503-293-2434, 0434 SW Iowa St., Portland, OR 97201) at the Trust Fund campaign office for more information.

Oregon's tradition of leading the nation with new answers to complex natural resource problems needs to continue into the 1990's. Oregon's citizens must use the opportunities of the Resource Conservation Trust Fund to show the nation, once again, that a quality environment is good business for the state's economic future.

Richard D. Holloch
Project Director,
Resource Conservation Trust Fund

CHANGES IN WILDLIFE GRAZING HABITS

From 1984 to the present, I have been observing and cataloging *Pedicularis* communities in the Western Cascades. There has been evidence of wildlife browsing in almost every major stand of parrot's beak (*Pedicularis racemosa*) and elephant's head (*P. groenlandica*). Over the last few years an alarming change has occurred in wildlife grazing habits in two areas of the Willamette National Forest.

Near Box Canyon in the Blue River District there are isolated solid large stands of *P. racemosa*. In 1984 these stands were very dense, eventually covering other herbaceous plants as spring progressed. By late June/early July they would flower with average heights of 5 or more dm (20 in.+). The stands appeared to be a vibrant healthy dominant of the herb layer. Wildlife browsing was evident, but this did not affect the stands as a whole.

Since 1984, browsing has increased both in time and amount. Now plants are eaten in May, long before flowering time. The entire stand is clipped to less than 1 dm (4 in.), and browsing continues all season. By flowering time, the typical stem height is no more than 1 to 1.5 dm (4-6 in.), with every stem clipped at least once. The stand as a whole is altered, with other herbs often growing through. Deer trails leading to the stands are obvious all summer. Although I have seen mostly deer tracks, a herd of twenty elk was seen last year on the way to these stands.

In the Sweet Home District, there are comparable stands of *P. racemosa* between Gordon Lakes and Gordon Meadows. Acres of undergrowth consist primarily of very dense coverage by this herbaceous plant. The area is open to cattle grazing, usually 50 'animal units'. Cattle thoroughly graze these plants like a lawn mower. This makes it impossible to determine the effects of wildlife browsing on these plant stands.

This area has many small unmapped moist meadows typically surrounded by a woodland shrub layer of willows, alders, etc. This often impenetrable layer keeps out both cattle and humans. Sometimes these shrub thickets have no apparent meadow at center; however, a careful observer following deer/elk trails will be lead into hidden communities of marsh marigolds, sedges, and shooting stars.

In 1984 large patches of elephant's head (*P. groenlandica*) and rein orchid (*Habenaria dilatata*) flowered for an exciting, colorful display. Wildlife trails would lead to one or two bedding spots, down to the creek for water, and a stroll through the elephant's heads. The animals would eat a few of the budding plants and move on.

In June 1990, there were five to eight bedding spots in two large meadows. One meadow was grazed by deer and the other by elk. Every *P. groenlandica* was eaten down to the basal rosette. Even the small meadows had no flowering stems by the height of the flowering season.

These *P. groenlandica* stands were definitely grazed by wildlife. Cattle are not grazed here until July, and have been at a constant level the past eight years. Many of the stands are inaccessible without walking in creeks or through thick shrubs in standing water. No human prints were seen but our own in seven trips over two months.

This intensification of wildlife grazing in these areas over the past few years is perhaps due to increasing deer, and to some degree elk, populations. Other factors such as the loss of predators and patchwork clearcutting in the area may have contributed. Although this is not the typical fate of all *Pedicularis* stands, incidents similar to these have been reported elsewhere in Western Oregon with other wildlife forages. At this time the *Pedicularis* stands are changed by this grazing, but may not be permanently damaged due to the perennial nature of the plants. More research is necessary to fully understand this trend.

---Howie Brounstein
Columbine and Wizardry Herbs



Pedicularis howellii
Drawn by Frank A. Lang
From Threatened and Endangered
Vascular Plants of Oregon:
An Illustrated Guide
By Robert J. Meinke

BOOK REVIEW FOR CURRENT AND FUTURE NPSO MEMBERS

Since becoming a mother in the spring of 1989, my free time reading has focused on infant and child care literature, and more recently on books for toddlers. Needless to say I have not had the occasion to review much botanical material. However, I have had the opportunity to review a great many juvenile books with my daughter Susanna's assistance. Although at two years of age she doesn't fully appreciate good quality, I'd like to share a real 'find' with my NPSO friends.

Should you ever be in the market for a reasonably priced children's soft cover book (\$4.95) of high quality artwork and sentiment, favoring the lupine, this is it!

Miss Rumphius

(Story and pictures by Barbara Cooney)

Puffin Books 1985

Winner of the American Book Award

It will make a fine gift for any young person and budding botanist or horticulturist. Along the story line of Johnny Appleseed, and as simply and eloquently done, it tells the story of the 'Lupine Lady'. From her youth, Alice Rumphius accepts three goals for her life: to visit faraway places, to live beside the sea in her old age, and to do something to make the world more beautiful. She planted lupine seeds all around her sea-coast home as her personal effort to make the world more beautiful.

"The illustrations for Miss Rumphius were painted in acrylics with accents of prismatic pencils on gesso-coated percale fabric mounted on illustration board. The art was camera separated and printed in four colors. The text type is Goudy Old Style and the display type is Goudy Cur-sive."

I invite you to check it out at your favorite bookstore. You may enjoy reading it yourself before passing it on to some lucky youngster.

--Susan Gabay
Mid-Columbia Chapter

Wyethia amplexicaulis
Mule's ears
Drawn by Diane Aho

FIELD TRIP TO THE OREGON RED- WOODS: EMERALD AND SISKIYOU CHAPTERS SPONSOR APRIL TRIP

Rhoda Love has contacted Michael Frazier, District Ranger on the Chetco District of the Siskiyou National Forest, and Ranger Frazier has invited all interested NPSO members on a guided tour of our beautiful Curry County redwoods on Saturday, April 27. This trip is being co-sponsored by Emerald and Siskiyou Chapters, but all NPSOers are welcome to attend. Mr. Frazier has promised to take us to Wheeler Creek Redwood RNA, and to the Redwood Nature Trail up the Chetco River from Brookings. We will also visit Oregon's northernmost redwoods on Rattlesnake Ridge. Then we will drive up the Winchuck to see some glorious old-growth redwoods on Peavine Ridge.

Overnight camping in the Brookings Area is available at Loeb Park, an Oregon State Park, where showers are available. The charge at Loeb Park should be around \$6 to \$8 per night. More primitive camping is also available at the Forest Service campgrounds, Redwood Campground up the Chetco and Winchuck Campground up the Winchuck. At these camps, there should be no charge, or perhaps a minimum charge.

Mr. Frazier says we will be joined on the trip by Phil Hicks, District Silviculturalist and Terry Jiron, Botanist. Siskiyou National Forest Ecologist, Tom Atzet, has also been invited to join us.

Field trip participants should meet at the Chetco Ranger Station, 555 5th Street, Brookings, at 10 am on Saturday morning. Please wear hiking clothes and boots and bring lunch and a drink. For more information, call Rhoda Love at 345-6241.



BITS AND PIECES

—News and Information From All Over

LEACH BOTANICAL GARDEN CLASS

Portland Chapter member Vance Terrall will give a free volunteer training session at Leach Botanical Garden March 27th at 10am. He will use slides to introduce the beauty to be found everywhere in the Northwest, especially our native flowers.

Leach Botanical Garden sponsors a variety of horticultural and botanical classes, workshops and field trips. Reach the Garden at 6704 SE 122nd Ave., Portland, OR 97238.

MALHEUR FIELD STATION EVENTS

Malheur Field Station is a regional educational center whose primary mission is to provide education and research opportunities in the northern Great Basin and Intermountain West. They offer a variety of accredited and non-accredited classes, workshops and fieldtrips. They are located on the Malheur National Wildlife Refuge, 32 miles south of Burns, Ore.

Topics of classes range widely---astronomy, the study of stone tool making, various botanical and ecological subjects, and birds and mammals. These courses are suited to vacation use! Contact the Field Station at HC 72 Box 260, Princeton, OR 97721 (503-493-2629)

MT. PISGAH ARBOR WEEK CELEBRATION

The theme is Arboretum Awareness. April 7th through 13th will see a variety of events scheduled daily. Open House, starting at noon on the 7th, features a children's Art poster Exhibit and a display by the Eugene Bonsai Club. April 8th and 9th are days for field trips and wildflower walks. Saturday features training for teachers on use of the Eugene area Arboretum as a natural history resource.

More complete information is available by contacting the Mount Pisgah Arboretum staff at 747-3817.

THIS SEASON AT TOM MCCALL PRESERVE

The Nature Conservancy is again providing naturalist-guided tours at the spectacular Tom McCall Preserve on Rowena Plateau. This area combines one of Oregon's best wildflower displays with dramatic Columbia River Gorge vistas and landforms created by past catastrophic geologic events. A naturalist will be available at the preserve weekends March 16th through May 26th, 11am through 4pm.

Hikers are reminded that conditions on the plateau are primitive. No restrooms are available, and pets are not allowed. Please preregister for hikes (228-9561).

If you would like to volunteer as a naturalist at Tom McCall, training is available Sat., Mar. 9th at 11am. Call the Nature Conservancy (228-9561) for more details.

THE FLORA OF NORTH AMERICA PROJECT

The Flora of North America Project is a collaborative effort of more than 20 major botanical institutions to compile the first comprehensive description of all plants growing spontaneously in the United States and Canada. About 17,000 species of vascular plants grow in this area.

In addition to the twelve volumes of the Flora published by Oxford University Press (the first scheduled to appear in late 1991), all the information will be contained in a computerized database called TROPICOS. The database will be continually updated and maintained as a permanent resource. It will allow users to access the information in a variety of ways, providing answers to such questions as "what spring-flowering plant with yellow flowers and simple leaves occurs in the grasslands of Nebraska?"

The Flora will be useful for reference in a wide variety of fields, and will provide thorough and authoritative information for identifying endangered plant species. Organizational center for the Flora of North America Project is The Missouri Botanical Garden in St. Louis.

STATE OFFICERS

DIRECTORS	Paula Brooks, John Christie, Tom Kaye, Barbara Mumblo, Kathy Schutt, Marjorie Willis
PRESIDENT	Stephanie Schulz
IMMEDIATE PAST PRESIDENT	Sen Garrett
VICE PRESIDENT	Dan Luoma
SECRETARY	Sue Vrilakas
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CONSERVATION, East Side	Sam Garrett	21663 Paloma Drive, Bend 97701; 389-6981
CONSERVATION, West Side	Rhoda Love	393 FulVue Dr., Eugene 97405; 345-6241
LEGISLATIVE	Eather McEvoy	3290 Willamette, Corvallis 97333; 754-0893
MEMBERSHIP	Mary Falconer	1920 Engel Ct. NW, Salem 97304; 585-9419
WILDLIFLOW POSTERS	Susan Gabay	P. O. Box 151, Mosier 97040; 478-3576
NOTECARDS	Nancy Fredricks	34213 Riverside Dr. SW, Albany 97321; 967-1893

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WM. CUSICK (LaGrande)	Karen Ansell	Biology Dept., EOSC, LaGrande 97850; 807-0267

BULLETIN EDITOR	Bryan Boyce	13285 S. Clackamas River Drive, Oregon City 97045-9411; 655-4457
KALMOPSSY EDITOR	Frank Lang	535 Taylor St., Ashland 97520; W-552-6341; H-482-5235

GUIDELINES FOR CONTRIBUTORS

The NPSO Bulletin is published monthly as a service to NPSO members and the public. Contributions of all types are welcome.

DEADLINE Copy is due with the editor by the 10th of each month.

Text Format: Submissions can be in any form. Camera-ready copy should be in 3.334 in. wide columns up to 9.3 in. long, with 22 in column spacing. The Bulletin uses 12pt, Times font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article pasted inside their favorite field guide.

Computer output: The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modem. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are useable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article. **Credits:** If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion.

Scientific Names: Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize* genus and species (underline if italic is not available).

Return of Originals: Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all.

Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____ Chapter (if known) _____
 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
 City _____ State _____ Zip+4 _____
 Phone (Home) _____ (Work) _____ City _____ State _____ Zip _____

* **DUES** include monthly NPSO Bulletin. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() Bulletin Subscription only	\$12.00
() Student			\$ 8.00	() Sustaining	\$ 30.00
() Regular			12.00	() Patron	100.00
() Family Membership			18.00	() Life Member	500.00

* CONTRIBUTIONS:	Jean Davis Memorial Award Fund	\$ _____
	Leighton Ho Memorial Award Fund	\$ _____
	Rare and Endangered Plant Fund	\$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:

Mary Falconer, NPSO Membership Chair, 1920 Engel Court NW, Salem, Oregon 97304.

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Send change of address notices to:
Native Plant Society of Oregon
Mary Falconer, Membership Chair,
1920 Engel Court NW,
Salem, Oregon 97304



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Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

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OUR 30TH ANNIVERSARY YEAR

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. As we are often in the position of asking them to follow their rules and regulations for conservation of our natural resources, it's time for us to do the same. Each group using wilderness must be no larger than 12.

Blue Mountain

1 Apr., Mon.

MEETING. 7:30pm in Room 113, Morrow Hall, BMCC. Berta Youtie will give a presentation concerning The Nature Conservancy.

6 Apr., Sat.

FIELD TRIP to Twin Sisters in Washington to observe early spring wildflowers. Leave from the BMCC greenhouse at 8am.

Corvallis

13 Apr., Sat.

FIELD TRIP to Mary's Peak in search of early season bloomers around the receding snow near the peak. Bring warm clothes, rain gear, and a sack lunch. Leave from the parking lot across from the Monroe Beanery at 9am. For more information call Esther McEvoy (754-0893).

8 Apr., Mon.

MEETING. (Note change of place this time only): 7:30pm in the Large Conference Room, Forest Sciences Lab, 3200 Jefferson Way. Joint meeting with the North American Truffling Society to view videos on frostbite and hypothermia by Dr. Frank Heyl of Portland; discussion following.

13 May, Mon.

MEETING. 7:30 at the Herbarium Library (Room 4083 Cordley Hall, OSU. Our guest Speaker will be Dr. Aaron Liston, Director of the Herbarium. His topic is "Botanical Travels in Northwest China".

Emerald

13 Apr., Sat.

FIELD TRIP. Buford Park Botanizing. Ever wonder whats over the hill from the Arboretum? Join Tom Pringle for a visit to the Buford Park botanical Area to view and document early spring wildflowers. Observe first hand why cattle and wetlands don't mix. Depart from South Eugene High School parking lot (NE corner) at 10am. Bring handliens, rain clothes, lunch, drink. For further information call Tom Pringle (484-0669).

8 Apr., Mon.

MEETING. 7pm at the Kennedy Middle School, Bailey Hill Rd. and West 18th. Wendell Wood of the Oregon natural Resources Council, and Tom Ribe, editor of *Inner Voice*, a publication of the Association of Forest Service Employees for Environmental Ethics, will discuss "Protecting Ancient Redwood Forests in the Siskiyou".

27 Apr., Sat.

FIELD TRIP: Curry County Redwoods. Joint trip with Siskiyou Chapter. All NPSO members wel come. Representatives of Siskiyou National Forest will take us to Wheeler Creek Redwood RNA, to the Redwood Nature Trail, to the northernmost redwoods on Snaketooth Ridge and to see some fine remaining old growth redwoods on Peavine Ridge. Overnight camping available at Loeb Park and at the Redwood and Winchuck Campgrounds on the National Forest. Meet at Chetco Ranger Station, 555 5th St., Brookings, at 10am. Wear hiking gear and bring lunch and drink. For more information call Rhoda Love, 345-6241.

13 May., Mon.

MEETING. 7pm at the Kennedy Middle School, Bailey Hill Rd. and West 18th. John Christie of the Oregon Natural Heritage Program will speak on "Mosses, Lichens, and Liverworts...Ranking for Protection".

High Desert

6 Apr., Sat.

Glide Wildflower Show. This long-running annual show highlights freshly collected plants from all over Oregon. Its a great chance to learn about our native flora firsthand. Several High Desert members are planning to attend. Call Betty Bahn (389-4192 for details and carpooling.

11 May., Sat.

FIELD TRIP to the Fort Rock District in Deschutes National Forest. Both natural and prescribed burns will be visited. A dramatic change in the non-forested steppe areas bordering the east side of the National Forest will be seen. A beautiful meadow-steppe area has been created from a heavy cover of sage and bitterbrush. The 1988 North Paulina fire will be visited. Easy Hiking. Call trip leader Stu Garrett for more information 389-6981 evenings.

Mid-Columbia

3 Apr., Wed.

MEETING. 7:30pm at the Mosier School. Bill Weiler, Wildlife Biologist for the Washington State Dept. of Wildlife in Yakima, will present the program "Oregon White Oak: Its Biology, Uses, and Conservation Strategies".

North Coast

11 Apr., Thurs.

MEETING. 7pm at the State Office Building, 3600 Third St., Tillamook. Ed Stierberg will give a slide presentation on plant nomenclature.

FIELD TRIP --to be announced. For more information call Ron Exeter (842-4171).

Portland

9 Apr., Tue.

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. Don Barr will be showing slides from the Siskiyou Mountains.

6 Apr., Sat.

FIELD TRIP. Nancy Russel will a coordinate a field trip NE of Lyle with the Friends of the Gorge. Leave at 9am from the DOT lot 60th & Glisan. 2nd pickup at south end of Hood River Bridge, 10:15am. Beware of ticks & poison oak. 1000 ft elevation gain over 4 miles.

6 Apr., Sat.

FIELD TRIP. Burdoin Mountain. Leader will be Christa Thie. Leave at 9:15am from the Bingen Winery on SR14.

27 Apr., Sat.

FIELD TRIP. Visit three local areas—each in the urban area. Limited driving, only a little walking. We will visit Berry Botanic Garden with its diverse plantings in the morning, spectacular Camassia Natural Area in the afternoon, with lunch on the banks of the Clackamas River overlooking a mass of the only sagebrush species native to the Willamette Valley. Leave from 82nd & Milwaukie Express way K-Mart lot at 9am. Call leader Bryan Boyce (655-4457) for more information.

Siskiyou

11 Apr., Thurs.

MEETING. 7:30pm in Room 171 of the Science Building at Southern Oregon State College. Rick Prusz, natural resource specialist for BLM, and Dr. Frank Lang, chairman of the SOSOC Biology Department and editor of the upcoming NPSO journal *Kalmiopsis*, will present a slide show of the Chapter's field trip to Mount Eddy in the summer of 1990.

27 Apr., Sat.

FIELD TRIP: Agate Desert Preserve. *Lomatium cookii* monitoring on the preserve. Meet at 9am, corner of Table Rock Road and Antelope Road. Darren Borgias, Southern Oregon Preserve Manager for The Nature Conservancy and Siskiyou chapter NPSO President, will provide material for sampling and instruction. This is an opportunity to contribute to the Conservancy's work in Southern Oregon and learn something about monitoring rare plants. Information 482-8196.

27 Apr., Sat.

FIELD TRIP: Curry County Redwoods. Joint trip to the Chetco Ranger District with Emerald Chapter. All NPSO members welcome. See the writeup under Emerald Chapter above.

Umpqua Valley

11 Apr., Thurs.

MEETING. 7pm in Room 216, Douglas County Courthouse Auditorium, Roseburg. Dr. David Wagner of the University of Oregon will have a program on ferns. For more information call Mary Carlson (672-3479).

FIELD TRIPS to be announced. For information call Barbara Rupers (364-0774 Salem).

27-28 Apr., Sat.-Sun.

FIELD TRIP. Glide Wildflower Show. Meet at the BLM parking lot, 777 Garden Valley Rd., Roseburg at 7:45am for carpooling, leave at 8am. Spend the morning examining exhibits, spend the afternoon in the field one had and the forest the other day.

VOLUNTEERS NEEDED

For the Glide Wildflower Show! We have scheduled two field trips in conjunction with the Glide Wildflower Show and need volunteers to meet participants at the BLM carpooling point. We also need people to help with the preparation of plant materials, be it collecting, keying, cataloging, or cleanup. Call Jean Cross (496-3236) or Mary Carlson (672-3479) to volunteer and to share our diverse plant resources.

9 May., Thurs.

MEETING. Frank Callahan will present a *Calochortus* species update. 7pm in Room 216, Douglas County Courthouse Auditorium, Roseburg. Frank will lead a field trip on to see *Calochortus* the following Saturday. For more information call Mary Carlson (672-3479).

Willamette Valley

15 Apr., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. Peter Zika will give a slide show and talk on The Mountain Flora of the Adirondacks.

18 May, Sat.

FIELD TRIP. Elaine Joyner will give a guided tour of the Willamette University Botanical Garden. Meet at 10am in front of Sparks Center on the Willamette University Campus.

William Cusick

For information, contact Paula Brooks (523-7564).

WAGNER'S 1-IN-20 RULE OF THUMB FOR PLANT COLLECTORS

The arrival of spring makes many botanists think about the arrival of "the field season". This is when we get out to search for plants in flower, make new discoveries, and, back in the good old days, make lots of nice collections.

These are not the good old days, however. The field season still means its time to look for plants but it doesn't necessarily mean making lots of collections. We recognize that past attitudes towards collecting often resulted in damage to plant populations that would be considered unconscionable today. Two examples of this come to mind immediately, both involving *Botrychium pumicola*, the rare pumice grapefern I have been studying for 12 years.

The pumice grape fern is known from very few sites. It was discovered on the rim of Crater Lake in 1897 and was known only from there until 1928, when a population was found by LeRoy Detling on the rim of Newberry Caldera. In 1941 W. B. Cooke found it on Mt. Shasta. His collection is in the herbarium at UC Berkeley. When I borrowed the specimen to verify its identity, I found it is, indeed, *B. pumicola*. On the label Cooke reported, "only two seen". The single specimen on the sheet represents 50% of the population! It has not been found on Mt. Shasta since, despite considerable searching, and is presumed extirpated in California.

In the early 1950s a student intern at Crater Lake National Park, Roy L. Rogers, undertook a search for additional sites for *B. pumicola*. He went to Newberry Caldera and found a new, healthy population on The Dome. It was a different site than Detling's, one recently rediscovered by Dr. Stuart Garrett of Bend. The Dome continues to be the most accessible site for seeing this fern and botanists looking for new sites regularly visit it to see the fern and develop the 'eye' needed to find this inconspicuous plant. However, when Rogers went to Tumalo Mountain, he found, and collected (dug up), two plants. He found only one plant on the east side of Broken Top, which he collected. It has not been found again at either of these sites.

These examples demonstrate very clearly how well-meaning botanists, in the pursuit of increasing knowledge about plants, have destroyed the existence of a species at certain sites by documenting their discoveries with collections. We hope that this wouldn't happen today, that botanists finding only one or two plants would document their discovery with photographs and notes. Good photographs and careful field notes are increasingly acceptable for recording plant discoveries. Nevertheless, from time to time, a field worker is likely to encounter a small population of an unknown plant and feel it is necessary to collect a small amount for positive identification and documentation. The Native Plant Society of Oregon Guidelines and Ethical Code recognizes this situation and advises that collecting be done as inconspicuously as possible so that casual observers will not be encouraged to follow suit.

The guidelines for field work go on to state, "Collecting must never endanger a plant population....avoid excessive collecting: this calls for exercise of good judgment by the collector. Consider the use of rules of thumb for judging whether to pick or not to pick". Sage advice, but what is a good rule of thumb? I remember this question being asked over a dozen years ago at one of the rare plant conferences organized by Jean Siddall in Portland. None of us, professional or amateur, had a good answer at that time.

During the past half-dozen years I began using a rule of thumb which I now call the '1-in-20 Rule'. I cannot recall from where the idea came, if it was in some piece of literature, picked up in conversation, or an original insight. The notion grew gradually in my mind, becoming clearly articulated only as it was put into strict practice, by myself, over the last few years. This practice has satisfied me of the general utility of this rule of thumb and I am now prepared to advocate its widespread use. I will take credit for the idea until somebody shows me an earlier source (not unlikely, since I have a vague sense that I heard it somewhere).

Simply put, the '1-in-20 Rule' dictates that one never collects more than one out of twenty plants. It means *not* collecting one plant until you have found at least twenty. This runs counter to the traditional collector's mentality. As a teenage fern collector the sight of a rare fern sent my hand out to pluck it from the rocks as a prize. Having the plant safely in my vasculum, I started looking around for more. Now, if I run across an unusual plant I suppress my traditional impulse and think, "Can I find twenty?" Only if twenty are found will I consider collecting one plant. And forty should be present before two are taken, and so on. Leave at least nineteen for every one taken. This applies to parts of plants, also: remove no more than five percent (one-twentieth) of a shrub, one frond from a clump of twenty, 5% of a patch of moss. I use the 1-in-20 Rule whether I am doing rare plant work or gathering common species for classroom use.

There is at least a modicum of scientific logic behind this rule. When we do statistical analyses of populations, we generally consider the difference between two populations to be not statistically significant if results of what we are counting or measuring are within 95% of each other. A population sample of 19 is not significantly different from a sample of 20. Note that I recognize that one plant out of a *total* of 20 is significant and statistics has nothing to do with it. Nevertheless, although the statistical argument for justifying the 1-in-20 Rule is weak when dealing with small populations, it is the most reasonable one I can devise. A population geneticist has advised me that statistical arguments will not speak against the 1-in-20 Rule. Between this advice and having proved to my own satisfaction the utility of the 1-in-20 Rule, I advocate its use by all field botanists.

The 1-in-20 Rule does not obviate the need for good judgment. Any collecting should be both necessary and permitted. Any pertinent factor relating to the survival of a population needs to be superimposed on the 1-in-20 Rule. The main value of a rule of thumb is to provide a clear point of reference from which to begin assessing a situation. I suggest this one as a minimal criterion to be met before any taking of a plant be considered.

---David H. Wagner
Emerald Chapter
Curator, U of O Herbarium

FENCING PARTY AT CATHERINE CREEK

Catherine Creek is a special place in the Columbia River Gorge, well known to many NPSO members. At least nine different rare plant species are found there, plus a host of other native trees, shrubs, grasses, and wildflowers. In 1988, over 2000 acres around Catherine Creek were acquired by the Forest Service, so that the area is now national forest land.

Unfortunately, during the past year ORVs, mostly four-wheel-drive vehicles, have invaded these beautiful grasslands, crushing plants and bulbs, making deep ruts in the thin fragile soils. Some of the ruts will scar the land for years to come.

The main reason for this desecration is the absence of a decent fence along the Old Highway. The existing fence is old and decrepit, almost non-existent in places, elsewhere so weak that one can push the fenceposts over or press the wires to the ground. What is needed is a strong new fence.

The Forest Service has agreed to supply the necessary materials and a Forest Service coordinator if the NPSO can supply volunteers to build the new fence. From our experience in building .3 mile of fence at the Dalles Mountain Road in 1989, we know we can build a fence to protect Catherine Creek. In fact, this one would be easier, since the fence is along the road, so that no time or effort need be expended carrying materials to the site.

In all, about a mile of new fence is needed, but the Forest Service recommends it be built in short installments. The proposal for 1991 is to build the section from the Catherine Creek gate west to the cliff edge--a little less than a quarter mile. We should be able to complete it in four sessions. The first session will be on a weekday soon after April 14th. Members who are interested in helping on one or more of the fence-building sessions should please contact Russ Jolley (286-2350) or Portland Chapter President Mike Fahey (206-694-2902).

--Russ Jolley
Portland Chapter

**NPSO ANNUAL MEETING, JUNE 14-16: MONTHLY UPDATE
MEETING SCHEDULE & REGISTRATION MATERIALS ENCLOSED**

ANNUAL MEETING PLANS: WITH ONLY TWO MONTHS TO GO, Emerald Chapter, under the direction of Charlene Simpson, continues to plan for NPSO's big 30th Birthday Annual Meeting in Eugene. Dates are **Friday, thru Sunday, June 14, 15 and 16.** The Saturday night banquet, which will be served in elegant Gerfinger Hall, will include wine and a gorgeous NPSO 30th Birthday cake! Banquet speaker will be **Dr. Linda R. McMahan** of Berry Botanic Garden.

REGISTRATION MATERIALS: This is the second and last time registration forms will appear in the Bulletin. If you forgot to fill yours out and send your check last month, please do it now! **Deadline for registration is May 1.** If you have registration questions, please call Evelyn Everett at 345-1746. If you have questions about the field trips, please call John Koenig at 935-7677.

ANNUAL MEETING SCHEDULE: A schedule of annual meeting events with times and places is in this *Bulletin*. This is the only time this schedule will appear, but all annual meeting participants will receive an updated schedule when they register. If you have questions about the schedule, please call Charlene Simpson at 465-1059.

POSTER SESSION: At most scientific conferences, poster sessions are held for participants who wish to give attendees an idea of research in progress, but who are not presenting formal papers. Rhoda Love has adopted this idea for our Annual Meeting. When Rhoda was NPSO president, she realized how important Chapter Reports are. Each chapter gains from hearing the important things other chapters are doing, yet there is often little time at meetings for these very important idea exchanges. Thus, the poster session was born! **Each chapter is asked to bring a poster illustrating one or more of your activities.** Easels will be provided. Emerald Chapter's poster will illustrate how Federally-listed *Lomatium bradshawii* at Buford Park was fenced to exclude cattle. Stu Garrett reports that High Desert Chapter is at work on their poster. Jerry Igo, of Mid-Columbia, will present a video of chapter activities. Posters will be displayed on Saturday night, June 15, before the banquet. Questions? Call Rhoda Love at 345-6241.



**NEW NPSO NOTECARDS
TO SUPPORT SOCIETY**

The new NPSO Notecards are now available from your local chapter. They feature seven rare plants illustrated by Julie Kierstead plus one by Eugene artist Valerie Sloane. Included in this collection are Gentner's fritillaria (*Fritillaria gentneri*), Kamchatka lily (*F. camchatcensis*), red clintonia (*Clintonia andrewsiana*), Myrtle Creek mariposa (*Calochortus coxii*), Barrett's penstemon (*Penstemon barrettiae*), rough popcorn flower (*Plagiobothrys hirtus*), triplet lily (*Triteleia laxa*), and Gorge daisy (*Erigeron oregonus*). Printed on pastel parchment-style paper in beige, grey blue and green with matching envelopes, these notecards make lovely gifts. Proceeds go to the NPSO's Rare and Endangered Plant Fund. For further information, contact Nancy Fredricks at (509) 427-8778, Box 127, North Bonneville, WA 98639.



CONSERVATION BIOLOGY PROGRAM FIELD PLANS

Its spring and the field season is again upon us! In 1991, we are looking forward to a rewarding season of cooperative projects with the Bureau of Land Management and the US Forest Service studying rare plants throughout Oregon. Here is a brief description of our plans.

Our work with BLM should cover at least five species. Already this year we have conducted inventory, monitoring, and disturbance ecology on *Montia howellii*, a tiny plant with a historic range from California to British Columbia, but which is now restricted to only a few known sites. Soon we will initiate long-term population studies of *Astragalus tyghensis*, a Wasco County endemic, and *Haplopappus radiatus*, a rangeland species form the Snake River Area. In Eastern Oregon near Harper, we hope to study the pollination and breeding system of *Amsinckia carinata*, an annual plant in the borage family, and examine substrate requirements of the species. Last, we will work with the BLM to establish a monitoring program for *Cordylanthus maritimus* at Coos Bay.

A trip to Hell's Canyon in the Wallowa-Whitman NF will kick off our field work with the USFS. There we will establish additional monitoring plots for *Mirabilis macfarlanei*, one of only three Oregon Plant species listed by the US Fish and Wildlife Service as endangered. On the Fremont NF near Lakeview, Dr. Aaron Liston from Oregon State University and his graduate student, Jeff Green, will work with us to examine possible hybridization of *Castilleja chlorotica* with other *Castilleja* species. In a third project, probably underway as you read this, we will work with the Berry Botanic Garden in their cooperative effort with the BLM and the Siuslaw NF to monitor population trends of *Erythronium elegans* (elegant fawn-lily) in the Coast Range. With these projects keeping us busy, we are hoping an interested person will come forward to help out with field work for one to two weeks. Funding may be possible through an NPSO Research Grant matched by ODA. Write or call Stephanie Schultz or Dan Luoma soon if you are interested.

--Tom Kaye and Bob Meinke

LET'S GO SEE OUR OREGON REDWOODS!

Please join us in Brookings on Sat. April 27 for a guided tour of our beautiful Oregon redwoods. District Ranger Michael Frazier and other representatives of the Chetco District of the Siskiyou National Forest will be our guides for a day on the Chetco and Winchuck Rivers to see what's left of Oregon's old growth redwood forest and to hear how the redwoods will be managed by the Forest Service in the future.

The trip is sponsored by the Emerald and Siskiyou Chapters and all NPSO members and other interested guests are welcome. Meet at the Chetco Ranger Station, 555 Fifth Street, Brookings at 10 am Saturday, April 27. Wear hiking clothes and boots and bring lunch and drink. For more information, call Rhoda Love (345-6241).

FACING PAGE, BOTTOM:
Sequoia sempervirens

Coast redwood

From Manual of trees of North America

By C.S. Sargent

BELOW:

Penstemon barreletiae

Drawn by Julie Kierstead

From Oregon Rare and Endangered Plants

NPSO Notecards



WILDFIRE IN CENTRAL OREGON: LIVING WITH THE INEVITABLE

The fire season of 1990 is one that vividly remains in the minds and lives of Central Oregonians. The loss of 22 homes in the Awbrey Hall fire is a graphic example of the potential for holocaust. Why do we have the current situation? What can be done about it? Can we prevent a similar dilemma in the future? In recognition of NPSO's 30th year, the High Desert Chapter will sponsor a series of fieldtrips to examine, in a non-judgemental way, the causes and effects of fire. We will travel to forested and non-forested areas and examine the urban and rural aspects of the problem.

Trips depart from the Juniper Park parking lot (7th and NE Greenwood in Bend at 8:30am unless otherwise noted. Arrive a few minutes early to carpool. We normally return to Bend by 5pm. Fill your gas tank. Bring water, lunch, boots, day-pack, and consider layered clothing, sunscreen, handlens, camera, binoculars, ect. Riders are encouraged to reimburse the drivers; 22 cents per mile total is a suggestion. Weather may be severe and trails and roads can be rough. No smoking due to fire danger. No picking or collecting of plants allowed. Please leave pets at home. Please privately inform your triplader of important medical conditions. You participate at your own risk. Call trip leaders for more information about specific outings, or Field Trip Chair Stu Garrett (389-6981 eves) for general information.

FORT ROCK DISTRICT, DESCHUTES NATIONAL FOREST Saturday, May 11th. Both natural and prescribed burns will be visited. A dramatic change in the non-forested steppe areas bordering the east side of the National Forest will be seen. A beautiful meadow-steppe area has been created from a heavy cover of sage and bitterbrush. The 1988 North Paulina fire will be visited. Easy Hiking. Call trip leader Stu Garrett for more information (389-6981 evenings).

HATFIELD'S HIGH DESERT RANCH Saturday, June 8th. Doc and Connie Hatfield have invited us to their ranch 15 miles from Brothers. They practice innovative ways of ranching which are kinder and

gentler on the land. Prescribed fire, juniper control, and riparian protection are some of them. Easy hiking. Trip leader is Stu Garrett 389-6981.

METOLIUS RESEARCH NATURAL AREA Saturday, June 29th.

In 1989 the USFS used prescribed fire in this ancient forest. We will visit the area to see the results and understand the benefits. We may also visit sites for Peck's penstemon, a rare plant. Easy hiking. Call trip leader Stu Garrett 389-6981

PRINGLE FALLS EXPERIMENTAL FOREST/RNA Saturday, July 20.

Both natural and planned fires will be seen. We will also visit the planned "Turn of the Century Forest" and understand the role fire will play in its development. Easy hiking. Call trip leader Bill Hopkins for details at 389-3330.

CRATER LAKE NATIONAL PARK Saturday-Sunday, July 27th-28th.

We will visit Oregon's only National Park on this overnight campout. Our tour will include an examination of fire management in the ancient forests of the Park and a visit to some rare plant locations. Moderate hiking. Please **preregister** with trip leader Stu Garrett at 389-6981 evenings.

BROKEN TOP VOLCANO Saturday August 17th.

Our annual hike to view the spectacular display of alpine wildflowers and glacial geology on Broken Top. A five mile RT moderate to strenuous hike with a 1500 ft. elevation gain, mostly off-trail in the Three Sisters Wilderness. Number of hikers limited due to USFS restrictions, call trip leader Stu Garrett to **preregister** at 389-6981 evenings.

AWBREY HALL FIRE Saturday, September 14th.

Those interested in the urban-forest interface will find this trip interesting. We will examine the area burned and talk about prevention. Recovery of the 1979 bridge Creek Burn may also be observed. Easy hiking. Trip leader is Stu Garrett, call 389-6981 evenings for more information.

NEW BOTANICAL AREAS ON THE ROUGE RIVER NATIONAL FOREST

With the approval of the Rogue River National Forest's Final Plan, twelve new botanical areas were designated this past year. All of these botanical areas (nine in Oregon and three in California) are found in the Siskiyou portion of the Forest and ten of the twelve areas are located on the Applegate Ranger District. These botanical areas were chosen because they contain concentrations of rare species, exceptionally rich and diverse floras, or plant communities that are rarely found in an undisturbed condition. Wayne Rolle, long-time NPSO member and Rogue River/Siskiyou National Forest zone botanist, was the driving force behind the designation of these botanical areas.

Botanical areas provide a cornerstone for maintaining biological diversity on the Forest. The US Forest Service Manual defines a botanical area as a unit of land that contains plant specimens, plant groups or plant communities that are significant because of form, occurrence, habitat, location, life history, arrangement, ecology, rarity or other features. When conflicts exist between botanical

area management and other resources, the conflict will be resolved in favor of the botanical resource, subject to rights under law and regulation.

The Oregon botanical areas are: Dutchman Peak, Grayback Mountain, Hinkle Lake, Lyman Creek/Doe Hollow, Miller Lake, Observation Peak, Mount Ashland, Red Mountain, and Whisky Peak. The California botanical areas include: Cook and Green Pass, Scraggy Mountain, and White Mountain. The majority of the botanical areas are found along the high crest of the Siskiyou Mountains. The Klamath National Forest is proposing botanical areas in the Mount Ashland and Cook and Green vicinity which would adjoin the Rogue River National Forest botanical areas creating larger areas of protection for these botanically unique communities.

Some of the sensitive plant species located in these botanical areas include: *Horkelia hendersonii*, *Lupinus aridus* spp. *ashlandensis*, *Haplopappus whitneyi* spp. *discoideus*, *Cypripedium californicum*, *Gentiana newberryi*, *Carex scabruiscula*, *Castilleja schizotricha*, *Erigeron petrophilus*, *Lewisia leana*, *Epilobium siskiyouense*, *Gentiana pleurisetosa*, *Ribes marshallii*, *Sedum laxum* spp. *heckneri*, *Lewisia cotyledon* var. *howellii*, *Sedum oblanceolatum*, *Arabis koehleri* spp. *stipitata*, *Minulus kelloggii*, *Tauschia howellii*, *Calochortus nudus*, *Draba howellii*, and *Pedicularis howellii*.

Joint NPSO-Forest Service field trips are planned to compile species lists in several of the botanical areas this summer.

--Barbara Mumblo
Siskiyou Chapter

ROCKCRESS SEARCH

Linda Ann Vorobik, illustrator and botanist with the Jepson Herbarium, is currently revising the "purple-flowered" *Arabis* group (i.e. the *Arabis blepharophylla* group)

A. aculeolata---Waldo rockcress

A. blepharophylla---Coast rockcress

A. mcdonaldiana---McDonald's rockcress

A. modesta---Rogue Canyon rockcress

A. oregana---Oregon rockcress

She will be publishing next winter, and so needs to visit as many populations of these species as possible this spring and summer. If you know of populations of any of these species that you think may not be well-known already, please contact Dr. Vorobik at the Jepson Herbarium, U.C., 6701 San Pablo Ave., Oakland CA 94608. Phone: (415) 643-7008 days, 527-3023 evenings or messages. Thank you.



HIGHLIGHTS OF JANUARY'S NPSO BOARD MEETING

- ☛ NPSO participation in the Environmental Federation of Oregon has been very successful for our organization. We have been an important part of its statewide program and are starting to see the benefits of it our programs.
- ☛ The High Desert Chapter will proceed with the development of a car window NPSO decal.
- ☛ A report of the R&E Conference in Eugene was given and plans will be made for NPSO co-sponsorship of the 1992 conference.
- ☛ A long discussion was held about the R&E endemic plants of Eastern Oregon and the threat to their survival of cyanide heap leach strip mining for gold. Plans are being made to ensure their protection.
- ☛ Initial reports indicate that Governor Robert's transition team has recommended a weaker stance on reclamation of cyanide heap mines than expected. Comments to the governor about this are appropriate.
- ☛ NPSO Research Grants to support studies of *Astragalus tyghensis*, *Silene spaldingii*, the Steens Mountain flora, and westside forest succession were reviewed.
- ☛ Esther McEvoy has been working hard to put together a slide show about Oregon's native vegetation. She has completed the introduction and is working now on each region of the state. She would appreciate slides and text from those interested.
- ☛ Concerns were raised that the Oregon Department of Agriculture's Plant Conservation Biology Program might face heavy budget cuts in the wake of Measure 5. Members interested in expressing support for the State of Oregon's Plant Systematics and Conservation Biology Program are encouraged to write Governor Roberts.



A KEY TO THE SIDALCEA SPECIES OF THE KLAMATH MOUNTAINS

This key (published as an insert in this *Bulletin*) was first developed in 1989 in fulfillment of a challenge cost-share agreement between the Oregon Department of Agriculture's Plant Conservation biology Program and the US Forest Service. The purpose of the project was to investigate the taxonomy and geographic distribution of the *Sidalcea* species in the Klamath Mountains region. One of my findings was that the taxon *Sidalcea setosa* is indistinguishable from *Sidalcea oregana* var. *spicata*. *Sidalcea setosa* is not in this key; I have proposed submerging *S. setosa* into *S. oregana* *spicata*. Also, as Hitchcock was quick to admit in his 1957 monograph on the perennial species of *Sidalcea*, there is quite a bit of interbreeding between the *Sidalceas* *malviflora* subspecies *asprella* and *virgata*. Since the species are virtually indistinguishable in the Illinois Valley, I have proposed that these be treated as a single subspecies, that of *asprella*, and that the former subspecies be changed to varieties *asprella* and *virgata*. A longer paper explaining these results has been accepted by *Madrono* and will hopefully be published later this year.

—Jenny Dimling
Emerald Chapter President

Sidalcea oregana spicata
Oregon *sidalcea*

Drawn by Jeanne R. Janish
in *Flora of the Pacific Northwest*
By Hitchcock & Cronquist
University of Washington Press

NPSO POSITION STATEMENT ON CYANIDE HEAP LEACH STRIP MINING

ADOPTED BY THE NPSO BOARD ON JANUARY 26TH, 1991

The Native Plant Society of Oregon is deeply concerned about proposals to develop cyanide heap leach strip mines in Oregon. We are opposed to the development of these mines in the manner that has occurred in other states. If these mines are developed in our state, NPSO asks that the following guidelines be adhered to. We stand firmly with other groups seeking legislation to prevent the damage this technology can inflict on Oregon's natural ecosystems.

PRE-OPERATIONAL ISSUES

We request a moratorium on permitting until proposed changes in laws, rules, and regulations are in place. Cumulative effects of mining on people, hydrology, wildlife, etc., need to be addressed. Because these mines can significantly impact an area of thousands of acres, certain sensitive areas should be excluded from this activity. Such areas should include (but are not limited to) ones of archaeological, botanic, wildlife, visual, recreational, historical, or cultural importance. The federal, state, and local permitting bodies should have the authority to restrict mining from these areas.

The NPSO feels that planning is a crucial concern. Many potential impacts can be anticipated and mitigated. A diverse public representation is key. Oregon's open meeting law should apply. No private coordinating meetings by the state Department of Geology and Mineral Industries (DOGAMI) should take place. Early and heavy public involvement is vital. Require applicant planning and up-front financing for social, economic, and infrastructure impacts.

The practice of allowing a mining company to hire and pay a private consulting firm to perform the environmental analysis of their project should not be permitted any longer. We prefer the agencies' performing their own analysis, or, if necessary, choosing an independent contractor to do it. Full financial compensation by the mining companies to the agencies for this service is appropriate. A detailed and comprehensive reclamation plan should be submitted as part of the application process.

Redundant safety systems should be required in the initial design. Allow no contamination of surface or ground waters. Triple lines, continuous monitoring by outside authorities, same day reporting of spills and kills required with public disclosure.

Mines should not be eligible for Oregon Pollution Control Tax Credits for liners and pads.

Permit fees should cover all agency costs incurred for regulation, mitigation, and restoration.

Require solid, biodegradable (wood?) stakes for claims. replace open topped plastic pipes.

Adequate surveys for sensitive and rare species are required. Winter-time or drought-time surveys are not adequate.

OPERATIONAL ISSUES

Require strict rules regarding transport of cyanide, including a ban of liquid transport.

Mandate absolute protection for fish and wildlife. We should experience zero wildlife deaths and have full mitigation for habitat loss. No endangered plants should be impacted whatsoever. All ponds must be covered and fenced. Require drip nozzles rather than spray.

A 30% severance tax should be placed on the value of mined ore. These fees should go into a state trust fund designated for community and environmental remediation. These "host fees" help cover local infrastructure, social, and environmental costs incurred by the host community. Don't allow in-situ mining, where cyanide is pumped into the ground and recovered for gold extraction.

Update fines and penalties to be truly protective. Require regular reporting of electrical and water usage, including well and groundwater impacts.

Stipulate inspection by monitoring agencies without prior notice.

POST-OPERATIONAL ISSUES

All pits must be backfilled to original contours.

All tailings piles must be recontoured to original contours and replanted to resemble the original native plant community. No exotic species should be used. Any drainage should meet drinking water standards. Pre-mining hydrology should be preserved or fully restored.

No airborne toxics to be released, with a minimum of ten-year monitoring.

All topsoil should be preserved and revegetation should prevent establishment of alien species. Final reclamation to start and be an ongoing part of operations as any part of the process is completed and to be finished within two years of closure.

Increase bonding requirements, with no cap. Bonds should be posted prior to any disturbance and should be adequate to cover all costs for impacts, restoration, and should have no escape clause. Bonding requirements must be adjustable upwards if mine development warrants this.

Allow citizen enforcement of standards through citizen-suits of permittee or of state agencies for violations. Require treble damages and recoverable legal fees if all or part of suit is won.

MEMBERSHIP COMMITTEE CHAIR NEEDED!

Our long-time Membership Chair Mary Falconer has resigned due to health considerations. She served the society well over the years keeping track of all the member's changes and comings and goings. We all owe her a big thank you!

The Society will need a replacement as soon as possible. The membership list is up to date and on a computer disk. A volunteer with either an IBM-compatible or Macintosh computer could take this on without much start-up time. The Society can supply the necessary software. The position requires entry of new members and changes of address for present members. Each month address labels for *Bulletin* mailings are printed, and occasionally for other mailings. If you are interested in this contact President Stephanie Schulz at (503) 485-1868.

PROJECTS FOR RARE PLANT RESEARCH

At the November NPSO State Board Meeting, I volunteered to collect information from the Forest Service, The Nature Conservancy and the Plant Conservation Biology Program on plant taxa which need study. Basically this is an Oregon list which we encourage graduate students or other botany enthusiasts to work on. These Forest Service Species comprise Part I of a series of II. With each are the name of the contact and the forest at which they may be reached for more details.

WAYNE ROLLE: SISKIYOU/ROGUE RIVER NATIONAL FORESTS

Perideridia erythrorhiza---3 populations, geographically widely separated. Are they the same? (Umpqua Valley, Upper Klamath Lake, and south side of Eight Dollar Mountain.)

Sedum radiatum complex, 3 subspecies: *depauperatum*, *radiatum*, and *ciliolum*. Are these valid?

Astragalus accidens var. *accidens* and var. *hendersonii*---are these taxa distinct? Do both occur in Oregon?

Eriogonum douglasii/E. *caepitosum*---An *Eriogonum* on Dutchman's Peak has features of both species. A new taxon or just a hybrid?

Eschscholzia caepitosa---Are the Oregon occurrences really this species or a variety of *E. californicum*?

Monardella purpurea/M. *odoratissima*---Are these distinct taxa?

Salix tracyi---Is this a valid taxon?

Carex globosa---One or two dioecious members of the *Carex* group *Montanae* occur in Josephine and Curry counties. Are these populations of previously described taxa (usually monocious) or are they something new and different?

Fritillaria gentneri---Is this a valid taxon, a sporadically-occurring hybrid, or something else?
Triteleia hendersonii var. *leachiae*---Is this a valid taxon?

Lomatium?---Keys to *L. nudicaule*, but with some differences. (Elevation 4000', Curry and Josephine counties.)

Viola?---Identified as *V. lansdorfii* (looks like a miniature *V. adunca*) but the identification is questionable. (Coastal headland in Curry County, one population of 50-100 individuals.)

ANDY KRANZ: OCHOCO NATIONAL FOREST
Alliums on the east side---a good key is needed, many are on the Regional Foresters Sensitive Species List.

KARL URBAN: UMATILLA NATIONAL FOREST
Spirea densiflora var. *splendens*---Is this taxon valid?

PAULA BROOKS: WALLOWA-WHITMAN NATIONAL FOREST
Allium tolmei var. *platyphyllum*---This is impossible to distinguish from var. *tolmei*...are the taxa valid?
Adiantum pedatum var. *novum*---Undescribed species. (Seven Devil's Wilderness, Idaho.)

TERRY LILLIBRIDGE: Wenatchee National Forest
Sidalcea oregana var. *calva*---Is this a variety or a distinct taxon?

JENNY DIMLING: WILLAMETTE NATIONAL FOREST
Romanzoffia thompsonii---Undescribed species, the bulk of which is located on the Willamette and Umpqua National Forests. It is the only annual *Romanzoffia*.

ANITA SEDA: SISKIYOU NATIONAL FOREST
Sophora leachiana---This species has a very limited distribution (mostly on the Galice Ranger District) and is frequently disturbed by management practices. The plant flowers profusely, but sets few seeds. Relatives in Asia have been used as herbal remedies for high blood pressure. Is this a disturbance tolerator, an early seral species or does it simply respond to an initial flush of nutrients? There is a need to monitor this species and perhaps study the reproductive biology.

---Jenny Dimling
Emerald Chapter

🌿 VOTE ON AMENDMENT TO THE NPSO BY-LAWS

At the January 26th Board Meeting I recommended that the State Board needed a quarterly report on the status of the Oregon Department of Agriculture's (ODA) Plant Conservation Biology Program as an agenda item at meetings. Such a report should be given by someone actively working in the program. This report would enable the NPSO to be in closer contact with how the program is doing and how we can strengthen it in the years to come. There was a discussion about this matter and it was recommended that the ODA Plant Conservation Biology Program appoint a representative to attend our Board Meetings as an ex-officio (non-voting) Board Member. This has been discussed with Bob Meinke of the ODA program and has met with approval. In order to appoint this ex-officio member, the by-laws need to be amended to provide specifically for such a member. To so amend the by-laws, our ballot sheet includes a proposal to add (no deletions made) to the by-laws a provision for an ex-officio member from the ODA program. This amendment will strengthen our links to the Departments of Agriculture's Plant Conservation Biology Program.

--Esther McEvoy

🌿 VOTE FOR STATE BOARD AND OFFICERS THIS MONTH

Its time to get out that trusty pen and mark your NPSO ballot again. Our annual election is in April, with installation of new officers at the annual meeting in Eugene this June (see the accompanying article and enclosed registration form in this issue). This year all four State officers are offering to return for another term. Three new Directors need to be elected to the Board. Fill in the enclosed preaddressed ballot and mail it in today!

BITS AND PIECES

—NEWS AND INFORMATION FROM ALL OVER

THIS SEASON AT TOM MCCALL PRESERVE
The Nature Conservancy is providing naturalist-guided tours at the spectacular Tom McCall Preserve on Rowena Plateau. This area combines one of Oregon's best wildflower displays with dramatic Columbia River Gorge vistas and landforms created by past catastrophic geologic events. A naturalist will be available at the preserve week-ends through May 26th, 11am through 4pm. Hikers are reminded that conditions on the plateau are primitive. No restrooms are available, and pets are not allowed. Please preregister for all events (228-9561). Guided walks are scheduled for Saturdays, April 6th and 20th, and May 4th and 25th. Each walk will feature a different cast of flowers. Meet at the Preserve entrance at 1pm.

A guided birding outing is planned for Sunday May 19th at 9am. The area is noted for a wide variety of birds due no doubt to the diversity of habitats available.

Two Knapweed Pulls are scheduled for May 11th and June 29th. Elimination of the obnoxious weed aids in preservation of the area for its original inhabitants, our native wildflowers. These outings have always been a favorite of NPSOers. Bring trowels, weedpullers of any description, gloves, lunch, water, and energy. Please preregister for the pulls (228-9561). Meet at the Rowena Crest Viewpoint.

BOTANY JOBS AVAILABLE

Seasonal botanists are needed by the US Forest Service for spring and summer fieldwork. For work in the Malheur National Forest, contact Karen Haines at 528 E. Main, John Day, OR 97845; (503) 575-2110. For positions in the Deschutes, Ochoco and Malheur Forests, contact the Personnel Service Center, 1645 Highway 20 East, Bend OR 97701. The Native Plant Society of Oregon Botany Job Clearinghouse can be reached C/O Paula Brooks, Wallowa-Whitman National Forest, PO Box 907, Baker City, OR 97814. This reference service is designed to aid job seekers in finding jobs with the USFS and BLM in Oregon.

HITCHCOCK ET AL. BACK IN PRINT!

Yes, all five complete, uncondensed volumes were reprinted again in 1990. Powell's Books in Portland is selling the set for \$250, or you can order direct from:

University of Washington Press
PO Box 50096
Seattle, WA 98145-5096

--John Christy
Portland Chapter

NPSO MEMBER KENTON CHAMBERS RECEIVES MERIT AWARD

Kenton Chambers, a member of the Corvallis Chapter NPSO, was given a Botanical Society of America Merit Award August 8, 1990, which was announced in the December 1990 edition of *Plant Science Bulletin*, the newsletter of the BSA. Recipients of this award are judged to have made significant, outstanding contributions to the field of botany. The article describes Chambers as an "eminent biosystematist, internationally recognized for his studies of various genera of *Asteraceae*; a pioneer in the development of plant conservation in Oregon; stimulating teacher who has inspired many students to become botanists".

BLM RESPONDS TO EASTSIDE DROUGHT

Bureau of Land Management Vale, Lakeview, and Burns Districts are so dry that the BLM is acting to limit grazing in 1991. Discussions with grazing permittees have resulted in a voluntary 50% reduction in use of existing grazing permits. With record low soil moisture content, coupled with stream flow levels as low as 25% of normal, and up to 30% of streams simply dried up, the BLM is contemplating further involuntary restrictions on grazing. Wild Horses from the Warm Springs Herd Management Area have been moved to a holding facility where water is available to them. BLM specialists expect to stop grazing completely in some pastures. Others will see little restriction, as drought severity is being judged on a case by case basis. BLM officials state that critical habitats will not be sacrificed to grazing.

STATE OFFICERS

DIRECTORS	Paula Brooks, John Christie, Tom Kaye, Barbara Mumblo, Kathy Schutt, Marjorie Willis
PRESIDENT	Stephanie Schulz..... 652 W. 10th St. #1, Eugene 97402; 485-1868
IMMEDIATE PAST PRESIDENT	Stu Garrett..... 21663 Paloma Drive, Bend 97701; 389-6981
VICE PRESIDENT	Dan Luoma..... 2912 NW Arthur Ave., Corvallis 97330; 758-8063
SECRETARY	Sue Viriakas..... 1120 NE 162nd, Portland 97230; 253-7080
TREASURER	Diane English..... 3383 W. 14th, Eugene 97402; 484-9287

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CONSERVATION, East Side	Stu Garrett..... 21663 Paloma Drive, Bend 97701; 389-6981
CONSERVATION, West Side	Rhoda Love..... 393 FulVue Dr., Eugene 97405; 345-6241
LEGISLATIVE	Esther McEvoy..... 3290 Willamette, Corvallis 97333; 754-0893
MEMBERSHIP	
WILDFLOWER POSTERS	Susan Gabay..... P. O. Box 151, Mosier 97040; 478-3576
NOTECARDS	Nancy Fredricks..... Box 127, North Bonneville, WA 98639; (509) 427-8778

CHAPTER PRESIDENTS

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WM. COSICK (LaGrande)	Karen Antell..... Biology Dept., EOSC, LaGrande 97850; 963-0267

BULLETIN EDITOR	Bryan Boyce..... 13285 S. Clackamas River Drive, Oregon City 97045-9411; 655-4457
KALMIOPSIS EDITOR	Frank Lang..... 535 Taylor St., Ashland 97520; W-552-6341; H-482-5235

GUIDELINES FOR CONTRIBUTORS

The NPSO Bulletin is published monthly as a service to NPSO members and the public. Contributions of all types are welcome.

DEADLINE Copy is due with the editor by the 10th of each month.

Text Format: Submissions can be in any form. Camera-ready copy should be in 3.334 in. wide columns up to 9.3 in. long, with 22 in column spacing. The Bulletin uses 12pt. "Times" font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article pasted inside their favorite field guide.

Computer output: The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modem. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are useable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article. **Credits:** If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion.

Scientific Names: Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize* genus and species (underline if italic is not available).

Return of Originals: Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all.

Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____ Chapter (if known) _____
 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
 City _____ State _____ Zip+4 _____
 Phone (Home) _____ (Work) _____ City _____ State _____ Zip _____

* **DUES** include monthly NPSO Bulletin. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() Bulletin Subscription only	\$10.00
() Student			\$ 8.00	() Sustaining	\$ 30.00
() Regular			12.00	() Patron	100.00
() Family Membership			18.00	() Life Member	500.00

* CONTRIBUTIONS:

Jan Davis Memorial Award Fund	\$ _____
Leighton Ho Memorial Award Fund	\$ _____
Rare and Endangered Plant Fund	\$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:

Mary Falconer, NPSO Membership Chair, 1920 Engel Court NW, Salem, Oregon 97304.

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 Mary Falconer, Membership Chair,
 1920 Engel Court NW,
 Salem, Oregon 97304

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of Oregon's native vegetation

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OUR 30TH ANNIVERSARY YEAR

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. As we are often in the position of asking them to follow their rules and regulations for conservation of our natural resources, it's time for us to do the same. Each group using wilderness must be no larger than 12.

Blue Mountain

5 May, Sun.

FIELD TRIP. Joint trip with the Pendleton Bird Club up the Umatilla River to observe riparian flora and fauna. Final destination is the Bar-M-Ranch, so bring your swimsuit as all participants are welcome to swim. Leave from the BMCC Greenhouse at 8am.

6 May, Mon.

MEETING. 7:30pm in Room 130, Morrow Hall, BMCC. Jerry will show his slides from the trip to Twin Sisters April 6th, and we will finish planning our summer field trips and any other unfinished business before we adjourn our meetings for the summer.

18 May, Sat.

FIELD TRIP. Berta Youtie of the Nature Conservancy will lead a trip to the Lindsay Prairie Preserve. Leave from the BMCC Greenhouse at 8am.

19 May, Sun.

FIELD TRIP. Ruth Rouse will lead a trip up Yellowjacket Road to observe the *Lewisia* and the chocho late lily. Date may vary depending on blooming date, call Ruth at 276-4791 to confirm. Leave from the BMCC Greenhouse at 8am.

1 June, Sat.

FIELD TRIP. Bruce Barnes will lead a trip up the South Fork of the Umatilla River. Leave from the BMCC Greenhouse at 8am.

Corvallis

5 May, Sun.

FIELD TRIP to Finley Wildlife Refuge with Tom Kaye. Leave at 10am from the parking lot across the street from the Monroe Street Beanery. Bring a picnic lunch and appropriate field clothing. Call Esther McEvoy (754-0893) for more information.

13 May, Mon.

MEETING. 7:30 at the Herbarium Library (Room 4083 Cordley Hall, OSU. Our guest Speaker will be Dr. Aaron Liston, Director of the Herbarium. His topic is "Botanical Travels in Northwest China".

- 18 May, Sat. **FIELD TRIP** to Bald Hill with Dick Halse. Bring a picnic lunch and appropriate field clothing. Call Esther McEvoy (754-0893) for more information.

Emerald

- 11 May, Sat. **MEETING.** 10am at Mount Pisgah Arboretum. Pre-wildflower show planning and collection coordination. Volunteers needed for collecting, setup, and keying. For further information call Jenny Dimling (343-3242).
- 13 May, Mon. **MEETING.** 7pm at the Kennedy Middle School, Bailey Hill Rd. and West 18th. John Christie of the Oregon Natural Heritage Program will speak on "Mosses, Lichens, and Liverworts...Ranking for Protection".
- 17 May, Fri.
18 May, Sat. **MEETING.** 9am at Mount Pisgah Arboretum. Collect, setup and ID for Wildflower Show. For further information call Jenny Dimling (343-3242).
- 19 May, Sun. **CELEBRATE SPRING** at the MOUNT PISGAH ARBORETUM/EMERALD CHAPTER NPSO WILDFLOWER SHOW. View a wide variety of coastal to mountain Lane County flora, natural history exhibits, guided arboretum tours, house and garden plants for sale and food booths.
- 25 May, Sat. **FIELD TRIP** to recognise NATIONAL WETLANDS MONTH and wetland's diversity of flora and fauna. We will visit west Eugene wetlands at TNC Willow Creek Preserve with trip leader Ed Alverson. Depart from South Eugene High School parking lot corner of 19th and Patterson at 9am. Bring handlens, lunch and drink. For further information call John Koenig (935-7677).
- 8 June, Sat. **FIELD TRIP** to the north shore of Lookout Point Reservoir. We will be completing an inventory of plants along the north shore road in a variety of habitats including open rock outcrops, forested zones and riparian areas. Good opportunity to sharpen your plant keying skills and gain familiarity with both common and some uncommon plants of the Western Cascades. Depart from South Eugene High School parking lot corner of 19th and Patterson at 9:30am. Bring handlens, lunch and drink. Trip leader: Jenny Dimling (343-3242).

High Desert

- 11 May, Sat. **FIELD TRIP** to Fort Rock District of Deschutes National Forest. Depart from the Juniper Park parking lot (7th and NE Franklin in Bend) at 8:30 sharp. Both natural and prescribed burns will be visited. A dramatic change in the non-forested steppe areas bordering the east side of the National Forest will be seen. Easy hiking. Trip leader is Stu Garrett (389-6981 eves).
- 9 June, Sun. **FIELD TRIP** to Hatfield's High Desert Ranch. Depart from the Juniper Park parking lot (7th and NE Franklin in Bend) at 8:30 sharp. Doc and Connie Hatfield have invited us to tour their ranch 15 miles north of Brothers. They have practiced innovative ways of running cattle which are kinder and gentler on the land. Prescribed fire, juniper control, and riparian protection are only some of them. Easy hiking. Trip leader is Stu Garrett (389-6981 eves).

Mid-Columbia

- 1 May, Wed. **MEETING.** 7:30pm at the Mosier School. Keith chamberlain will do a slide program featuring "Plants of Boggy Habitats". Does anyone want to know where "Hickeyville Junction" is?

North Coast

- 9 May, Thurs. **MEETING.** 7pm at the State Office Building, 3600 Third St., Tillamook. Members will share up to five slides with the group.
FIELD TRIP --to be announced. For more informatin call Ron Exeter (842-4171).

Portland

5 May, Sun.

FIELD TRIP: Easy half-day tour of Native Plant Garden at Clackamas Community College's John Inskeep Environmental Learning Center and the Recycling Center. Meet at 1pm at the Pauling Center in CCC, Oregon City. Take the Park Place exit (#10); head SE about 3.5 miles to CCC entrance (follow signs), left onto campus, keep right at yield sign to parking area on left (2nd drive is closest). Field Trip Guide will be Bob Misley of the Botany Department. For more info contact Nancy Fahey at 206-694-2902.

11 May, Sat.

FIELD TRIP: This will be the first of several trips to McCord Creek to visit the diverse habitats there--home of several western Columbia River Gorge endemics. Bring Hitchcock and we will add to the plant list for McCord Creek. Leave at 8am from the SW corner of the K-Mart parking lot located at 122nd and Sandy. Field trip guide will be Charlene Holzwarth (284-3444).

14 May, Tue.

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. Lois Kemp will be showing slides of native plants of Oregon.

18 May, Sat.

FIELD TRIP: Visit the clackamas River area to see *Iris tenuis* (endemic to this drainage) and other native plants. Leave at 9am from the new Estacada Ranger Station. Guides will be George Jeffcott (639-9126) and Herb Armentrout (658-2751).

25-26-27 May
Memorial Day Weekend

FIELD TRIP: Guided Tour and learning session on the flora of Southwestern Oregon. Meet each day at the Cave Junction Inn at the following times (Cave Junction is SW of Grants Pass on Oregon 199):
25 May---Meet at 1pm for a half day of botanizing.
26 May---Meet at 8am for visit to Bolan Lake area.
27 May---Meet at 8am for botanizing on the way back to Portland.
Guide will be George Lewis (for info, call (home) 760-2316 or (work) 796-7052). Rooms are available at the Cave Junction Inn and the Holiday Motel in Kerby.

1 June, Sat.

FIELD TRIP: Lois Kemp will show slides of unusual plants of the Gorge between 10 and 12am at Leach Botanical Garden. She will also show how to identify plants using Hitchcock to key a weed species. Bring lunch to eat besides Johnson Creek. After lunch see fern propagation and more of the garden. Meet 10am at the garden's Manor House, located at 6704 SE 122nd Avenue, south of Foster. Park south of the bridge. For info., call Charlene Holzwarth (384-3444).

9 June, Sun

FIELD TRIP: Join Del Blackburn of Clark College when he leads his botany students to Gumboog Bog in the Gifford Pinchot National Forest. Leave at 9:30am from the 134th St. Park and Ride off of I-5 North of Vancouver, Wa., or at 11am at Sunset Campground on the Lewis River. For information call Nancy Fahey (206-694-2902).

15 June, Sat.

FIELD TRIP: Carroll DuBour will lead a joint NPSO-Freinds of the Columbia River Gorge moderate 6.5 mile hike along the Pacific Crest Trail. The route will pass Gillette Lake and go to Greenleaf Basin Overlook. Leave at 8:30am from the DOT parking lot at 60th and Glisan, Or at 9:30am at the trailhead, across Washington State Highway 14 from Donnevill Dam (2 miles west of the north end of the Bridge of the Gods). Leader is Carroll DuBour (234-4135).

28-30 June

CONFERENCE WITH FIELD TRIPS: Jointly sponsored by the Portland Chapter NPSO, Leach Botanical Garden, Berry Botanic Garden and Hoyt Arboretum. The theme is "Nature in the Garden" and "The Garden in Nature". Registration fee is \$75.

Siskiyou

9 May, Thurs.

MEETING. 7:30pm in Room 171 of the Science Building at Southern Oregon State College. Ray Prag from Forest Farms will speak on landscaping with native plants.

11 May., Sat.

FIELD TRIP: Lyman Creek/Doe Hollow Botanical Area. Barbara Mumblo will lead a field trip to a low elevation botanical area on the Applegate Ranger District. This is an easy trip in the botanical area and possibly around Squaw Lake. Leave from Star Ranger Station at 9:30am. For information call Barbara Mumblo 899-1812.

25 May., Sat.

FIELD TRIP: Rainy Falls along the Rogue River. Leave at 9am from the Food 4 Less lot in Medford or at 9:45am from the Siskiyou National Forest Supervisor's Office (at the North Grants Pass Exit on I-5, turn right at stop sign, then another quick right onto Greenfield Road, Driveway on left). For information call Barbara Mumblo 899-1812.

9 June, Sun. **FIELD TRIP:** Babyfoot Lake and proposed Howell Memorial Drive. Anita Seda, botanist for the Illinois Valley Ranger District will lead us to Babyfoot Lake, Fiddler Mountain, and the proposed Howell Memorial Drive. Plants we'll see are *Draba howellii*, *Fritillaria glauca*, Brewer's spruce, and *Lewisia cotyledon* var. *purdyi*. Leave at 8am from the Food 4 Less lot in Medford, at 8:45am from the Grants Pass BiMart or Selma Market at 9:30am. Contact Anita Seda (592-2166) for more information.

Umpqua Valley

9 May, Thurs. **MEETING.** Frank Callahan will present a *Calochortus* species update. 7pm in Room 310, Douglas County Courthouse Auditorium, Roseburg. Frank will lead a field trip on to see *Calochortus* the following Saturday. For more information call Mary Carlson (672-3479).

11 May, Sat. **Field Trip.** Look for ferns in rock, field and forest, especially *Pellaea andromedaefolia* and *Polystichum californicum*. Meet 7:45 am BLM parking lot, 777 Garden Valley Road for carpooling, leave 8 am. Coordinator, 673-3709.

8 Jun., Sat. **Field Trip.** This is a good time to look for *Calochortus umpquaensis* in its habitat from river to 2000' elevation. Meet 7:45 am BLM parking lot, 777 Garden Valley Road for carpooling, leave 8 am. Coordinator, 673-3709.

13 Jun., Thurs. **MEETING.** NE US alpine flora by Peter Zika. 7pm Room 310 Douglas County Courthouse, Roseburg. For more information call Russ Holmes (672-4635).

Willamette Valley

18 May, Sat. **FIELD TRIP.** Elaine Joyner will give a guided tour of the Willamette University Botanical Garden. Meet at 10am in front of Sparks Center on the Willamette University Campus.

20 May, Mon. **MEETING.** 7pm at First United Methodist Church, Room 225, 600 State St., Salem.

William Cusick

For information, contact Paula Brooks (523-7564).

NEW OFFICERS FOR THE PORTLAND CHAPTER

PRESIDENT: Michael D. Fahey
FIRST VICE PRESIDENT: David Dobak
SECOND VICE PRESIDENT: Nancy Fahey
SECRETARY: Rosemary Kenney
TREASURER: Jean France

APOLOGY TO KRISTA THIE

We apologize to Krista for the error in the date of her field trip to Burdoin Mountain. We also apologize to those who met in Bingen to take this field trip.

---Mike Fahey

NEWS FROM THE THREATENED AND ENDANGERED PLANT COMMITTEE CHAIR

Hi! I am indeed alive, and a T&E program may be lurching slowly forward. At the suggestion of Rhoda Love and Esther McEvoy, I have drawn a map outlining boundaries for the Threatened and endangered Species responsibilities of each of the chapters. This map is a first draft, is totally non-binding, and has nothing to do with the legal organization or boundaries of the state chapters. It is just an attempt to help local chapters get organized, and to divide up a very diverse state.

The boundaries were drawn on county lines, which conveniently follow watershed boundaries throughout much of the state. Whenever possible, I have stayed on these county lines, because the T&E data is organized by county in the database, and is easily retrieved. Occasionally, I followed major roads (like State Highways 395 and US 97). This process has created some unnatural situations, such as southern Grant County being in the Blue Mtn. Chapter, but this is only for organizational purposes, and this is our first draft. Send comments to Jimmy Kagan, Oregon Natural Heritage Program, 1205 NW 25th Ave., Portland, Or 97210.

While complete lists of plants within each chapter (T&E and otherwise) is an overall goal, in the short term I'd like each chapter organize a few field trips or have a T&E committee responsible for monitoring the three or four most endangered plants in their area, and to attempt to assess the status of at least two view list species in their area each year. This way we can make some steady progress. If this approach seems reasonable, I will send a list of all the state listed and high priority T&E plants in the chapter areas to the chapter pres-idents, as well as a list containing five or six review list species needing inventory. Sighting locations and maps for all known locations will be included.

I am still working on the 1991 update of "Rare, Threatened and Endangered Plants and Animals of Oregon". Due to major revisions and time involved, I may not be able to provide the leadership many of you needed or expected. Carolyn Wright was kind enough to volunteer to assist me with questions that the east-side chapters may have. I

am still looking for a way to divide responsibility for the west-side chapters.

Good luck with your rare plant hunts this season. Contact me at the Heritage Program (address above) or your chapter president for more information. --Jimmy Kagan, T&E Committee

CONTRACT ANNOUNCEMENT FOR *ASTRAGALUS PECKII* NPSO/BLM PROJECT

The Mid-Columbia Chapter of NPSO and Prineville District of the BLM have agreed upon a Challenge Cost Share Project for 1991. This will result in \$600 to be used for inventorying populations of *Astragalus peckii* in a 4400 acre Area of Critical Environmental Concern (ACEC) near Tumalo.

Our format is flexible.....so make us an offer! The inventory should ideally be done in June. It could involve several consecutive days or be spread out over weekends. The \$600 can be paid on an hourly or daily basis with respect to the number of acres covered. It could also be designated as reimbursement for expenses like gas mileage. Only a portion of the 4400 acres could be expected to be inventoried considering this funding level. Thus specific section(s) of the ACE will be agreed upon by the selected contractor and Ron Halvorson of BLM. The Mid-Columbia Chapter would like to select a contractor as quickly as possible. The Mid-Columbia Chapter will also be responsible for administering the payment at completion of or through duration of the project. A degree in botany is not a requirement. However, the individual must have good working plant identification skills and be able to use topographical maps. BLM will provide any materials necessary. They advise that camping in the area is both possible and reasonable.

If you are interested and want more details, contact Susan Gabay immediately, at 478-3576 (eves) or 296-4661 (days), or by mail, Box 151, Mosier Or. 97040. You can also contact Ron Halvorson at the Prineville BLM District Office at 447-4115.

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A PESTY WEED AND A BOTANICAL JOKE

Carl Linnaeus (1707-1778) was the greatest Swedish naturalist of the 18th Century. By his genius, voluminous publications, and strength of personality, he completely reformed the science of taxonomy (the description and classification of organisms), and he initiated the system of generic and specific names which continues to be used today for all the world's flora and fauna. Linnaeus was a complex, controversial man. As a prodigy who outshone his contemporaries, he was both admired and envied; his writings have a dominating and authoritative tone to them, clearly implying "I know best, and I make the rules!" In retrospect, this self-confidence was justified, since his contributions to classification—including his binomial system of generic and specific names, his standardized methods for describing plants and animals, and his principle that names be uniform and universal—have dominated taxonomy ever since.

Could Carl Linnaeus, who obviously took himself very seriously, also have been a man with a sense of humor? In the literature of Latin plant names there are numerous subtle "botanical jokes," where taxonomists have shown their cleverness by inventing names with double meanings, bilingual puns, anagrams, and humorous references to fellow scientists. I want to describe here a case where Linnaeus himself may have done such a trick, involving the generic name for a vulgar, pesty weed—the common cat's-ear or false-dandelion.

In 1753, on page 810 of his great work *Species Plantarum*, Linnaeus assigned the generic name *Hypochaeris* to cat's-ear. The best known species in Oregon is *H. radicata*, an introduced European weed which, like the common dandelion, infests lawns and waste places everywhere. In 1754, just a year later, Linnaeus published the 5th edition of his companion book *Genera Plantarum*, giving descriptions of the genera he had only mentioned by name in *Species Plantarum*. On page 352, he spells the

name of cat's-ear as *Hypochoeris*—substituting -oe- for the previous diphthong -ae-. What is the significance of this minor change of spelling? For one thing, it created endless confusion for later taxonomists, because only one spelling of a generic name can be correct, but how can we know which spelling Linnaeus really preferred? Did he purposely spell it differently, or was the second spelling only a "slip of the pen"? Prior to Linnaeus, the spelling had always been *Hypochaeris*. However, the two books *Species Plantarum* (1753) and *Genera Plantarum* (1754) are the official starting points for botanical nomenclature; we must accept the spelling by Linnaeus—but which one?

As examples of the persistently confused spelling, I have copied four recent reference books on western American flora—by the authors Arthur Cronquist, Morton Peck, Philip Munz, and LeRoy Abrams. They are equally divided, two and two, for the alternative spellings. Not until its 1988 edition did the International Code of Botanical Nomenclature give a definitive answer to this problem. Article 13.4 of the "Code" states: "The spelling of the

HYPOCHÆRIS.

1. HYPOCHÆRIS foliis dentatis, caule ramoso folioso, calycibus hispida. †
Hypochaeris hieracii barbati folio, calyce hispido. *Vaill.*
arb. 1731. p. 215.
Hieracium alpinum, dentis leonis folio acuto pilosoproscido, calycibus pungenti lanugine oblitis. *Csp. catb.*
95. Raf. Jussel. 146.
Habitat in Sicilia.
Calycis squame asperae spinulis pungentibus.

352 SYNGENESIA POLYGAMIA ÆQUALIS.

822. HYPOCHOERIS. * 1711. *Vaill. A. G.* 28.

21. Achyrophorus *Vaill. A. G.* 1721. 52. 28.

13. 21. 18.

Fig. 1. The two spellings by Linnaeus:
Top, *Species Plantarum*, ed. 1, 1753;
bottom, *Genera Plantarum*, ed. 5, 1754.

generic names included in the Species Plantarum ed. 1 is not to be altered because a different spelling has been used in the Genera Plantarum ed. 5." Eureka! The correct spelling must be *Hypochaeris*.

Curious to know if there was a difference in meaning between *Hypochaeris* and *Hypochoeris*, I looked for their original Greek derivations in the excellent reference book Composition of Scientific Words, by Roland W. Brown. "Hypo-" is a familiar prefix used in many modern English words and meaning "under" or "less than." Dictionary examples are hypodermic, hypothermia, and hypothesis. The Latin "-chaeris" comes from the Greek word *chairo*, "to rejoice." How appropriate, therefore, that the name *Hypochaeris*, an unattractive and unwanted weed, translates as "less than joyous." But what might be the meaning of Linnaeus' other spelling, *Hypochoeris*? In Latin, "-choeris" derives from the Greek word *choiros*, meaning "pig." Thus, *Hypochoeris* may translate as "under pigs." Yet perhaps this was Linnaeus' little botanical joke, a subtle yet appropriate play on words, in which this unattractive weed (providing "little joy" to humans) is to be renamed, using barnyard analogy, as a plant best suited to having pigs lie on it. This might well be the ultimate botanical put-down.

The American-style pronunciation of this genus name, whichever way it is spelled, is "high-pokee-riss," with the accent on the long-e. Many English words coming from Latin ones with an -ae diphthong have dropped the "a" and are pronounced as long-e; examples are demon, equal, predict, and sphere.

Ken Chambers,
Corvallis Chapter

NPSO 1991 ANNUAL MEETING, JUNE 14-16: MONTHLY UPDATE REGISTRATION DEADLINE MAY 1ST.

With a bit over a month to go, Emerald Chapter in Eugene, under the direction of Charlene Simpson, Annual Meeting Chair, is putting the final touches on NPSO's big 30th Birthday Annual Meeting. Dates are Friday, Saturday and Sunday, June 14, 15 and 16. Registration materials appeared in your March and April Bulletins. If you forgot to fill yours out and send your check last month, do this at once. Deadline for registration is May 1. If you have registration questions, call Evelyn Everett, 345-1746. If you have questions about the field trips, call John Koenig, 935-7677. A schedule of annual meeting events with times and places appeared in the April Bulletin; annual meeting participants will receive an updated schedule when they register. Each chapter is asked to bring a poster illustrating one or more chapter activities. Easels will be provided. Emerald Chapter's poster will illustrate how Federally-listed *Lomatium bradshawii* at Buford Park was fenced to exclude cattle. Jerry Igo, of Mid-Columbia will present a video of chapter activities. Posters will be displayed on Saturday night, June 15, before the banquet. Questions about posters? Call Rhoda Love, 345-6241. General Annual Meeting Questions? Call Charlene Simpson, 465-1059. See you at our 30th Birthday Party!

Hypochaeris L. Cat's-ear

Similar to *Leontodon*, from which it is distinguished primarily by its chaffy-bracted recept; our spp. European weeds with some or all of the achenes long-beaked, intro chiefly W. Cas. fl. May-Oct. (Name used by *Therophrastus* for this or some other cichorioid genus.)

89. HYPOCHAEERIS L.

Perennial or annual herbs, the leaves mostly in a basal rosette; inflorescence paniculately branched, the heads medium sized or large; bracts of the involucre imbricated in several series; flowers yellow subnerved by chaffy bracts; achenes 10-ribbed, mostly distinctly beaked; pappus a row of brownish plumose bristles, or sometimes with a smaller outer row.

170. *Hypochaeris* L. Cat's Ear

Annual or perennial herbs with lvs. in radical rosette or cluster and naked stems bearing a solitary head or a somewhat compound cluster of long-petioled heads. Fls. yellow. Invol. cylindric or campanulate, with rather few lanceolate erect imbricated phyllaries. Receptacle flat, the bracts scarious, chaffy, thin. Ahs. glabrous, sparsely scabrous, the body 10-ribbed, narrow-oblong or fusiform, truncate or beaked. Pappus bristles plumose or some of outer shorter and single. Ca. 70 spp., 12 in Eu., the others S. Am. [Greek name used by *Therophrastus* for this or some other genus.]

166. *HYPOCHAEERIS* L. Sp. Pl. 810. 1753.

Herbs with a basal tuft of leaves and bracteolate, usually branched, scapose stems. Involucres solitary at the ends of the scapose branches, oblong-cylindric to campanulate, the phyllaries in several series, herbaceous. Receptacle flat, chaffy. Ligules yellow. Achenes oblong to linear, 10-ribbed, constricted above or the outer truncate. Pappus of a single row of plumose bristles, or sometimes the outer ones shorter and not plumose.

Fig. 2. Spellings in (top to bottom):
Cronquist, *Flora of the Pacific Northwest*, 1973;
Peck, *Manual of the Higher Plants of Oregon*, 1961;
Munz, *A California Flora*, 1959;
Abrams, *Illustrated Flora of the Pacific States*, vol. 4, 1960

WANTED--COMPUTER FOR NEW NPSO MEMBERSHIP CHAIR

A new NPSO Membership Committee has volunteered, but does not have a computer. The NPSO is seeking the donation of a computer, either IBM-PC compatible or Macintosh. Any model is useable, but a machine with a hard drive is needed. A black and white monitor is satisfactory. Donation of a printer has already been promised. Donation of either computer or monitor alone will be helpful. Value of the donation is tax-deductable. The donor will be solely responsible for determining value of the item. Contact Jan or Dave Dobak (248-9242 Portland) or Dan Luoma (758-8063 Corvallis).

BENEFITS FROM YOUR MEMBERSHIP

All members of the Native Plant Society will now receive two new free benefits. The first issue of *Journal of the Native Plant Society of Oregon*, *Kalmiopsis*, should be arriving in your mailbox at about the time you receive this *Bulletin*. Created in a high quality magazine-style format, this new publication contains informative, in-depth articles about our native flora and about the issues facing those of us wishing to preserve the natural ecology that our native plants depend on.

Included in this *Bulletin* is one of the new Native Plant Society window stickers. Featuring our official trillium logo, they are green on a white background. They are designed to go on the inside of your car or other windows. They were developed by the High Desert Chapter. More of them can be ordered from the High Desert Chapter, c/o Stu Garrett, 21663 Paloma Drive, Bend, OR 97701. They are \$1 each with a minimum order of five.

Fritillaria camtschaticensis
Kamchatka lily

Drawn by Julie Kienstead
From *Oregon Rare and Endangered Plants*
NPSO Notecards

UMPQUA CHAPTER FIELD TRIP REPORT

15 NPSOers hiked to Blacklock Point and its RNA under the able leadership of Reg Pullen, BLM archaeologist and Larry, BLM biologist. First we ventured forth across the ankle-deep outlet of Floras Lake, across the deflation plain where we saw *Phacelia* and Larry traced out on the sand the migration route of the Aleutian sub-species of Canada goose. Further south we climbed up on the old marine terrace, which has risen 32 ft. in the past 500 years, going through plant communities associated with the Blacklock soil series (podzol-like), a soil with black silk-like surface and restricted subsoil drainage. Here we saw "pygmy" *Picea sitchensis* similar to the ones found by Hans Jenny on the Mendocino coast. On the coastal cliffs we saw an arctic-alpine shrub community of *Empetrum nigrum*, Labrador tea, dwarf juniper and a host of other native plants. The Blacklock Point meadow overlooking Cape Blanco retains its native grasses and associated species without any European beachgrass, a plague of the Oregon coast. In exchange for this we gave them *Darlingtonia californica* which makes a good home in British Isles bogs. We headed back home through ankle deep water on Blacklock soils. This area needs study and watching for preservation in its natural state.



WESTSIDE CONSERVATION CHAIR NEEDED

I'm happy to say that Westside conservation issues are well in hand. All correspondence is up to date and stored safely on disk ready to be handed to my replacement in June. I would estimate that I have averaged approximately 12 hours a month on NPSO conservation issues. With Stu Garrett doing an outstanding job on the East side, the conservation job is truly manageable. I agreed to volunteer for this interesting post last fall when another person had not been found for the job--- but only for the remainder of the year. I have been enjoying the challenge very much, but, having retired from full-year teaching, I have other plans for this fall. Our society now needs a new volunteer to keep tabs on important West side issues such as forest biodiversity, rare plant protection, and Willamette Valley native prairie management. I look forward to passing on the West side conservation files to my replacement at the Annual Meeting in Eugene in June, and will be glad to assist the new chairperson next year, whenever I am in town. Please volunteer by calling President Stephanie Schulz at 485-1868. Or call me at 345-6241 if you want more details about just what the job entails. Thanks for keeping NPSO strong and active!

--Rhoda Love, Westside Conservation Chair

VALE BLM TRACKS RARE PLANTS

Eastern Oregon is a long way from the haunts of most NPSO members. However, many rare species and plant assemblages can be found in this arid region. The Bureau of Land Management, Vale District, has been chipping away at developing an increased understanding of a number of these species. The year of 1990 was a good one for answering some of our questions about plant responses to drought, as well as for accomplishing additional inventories and monitoring. A few highlights from the year follow.

Our temporary employee from Boise, an expert on western Idaho/eastern Oregon flora, Lynda Smithman, conducted a major inventory for sterile Milk-vetch (*Astragalus sterilis*) near the Owyhee Reservoir and Leslie Gulch country. She added 12 new

sitings to the 31 previously known sitings of the species. This milk-vetch is a local endemic, with a few populations known in Idaho and the rest in Malheur County. The light-colored ash soils which support this species also seem to be in the regions where mining claim stakes are appearing. We are continuing to monitor Malheur forget-me-not (*Hackelia conquistii*), for which we have an official Habitat Management Plan. This lovely, pale blue perennial hardly bloomed in 1990, and we observed considerable mortality on previous year's seedlings. The species continues to be locally abundant in the sand hills around Vale.

Mulford's milk-vetch (*Astragalus mulfordiae*) also from the sand hills surrounding Vale, continues to be monitored. Very few populations of this species are found in Oregon. Scattered populations also grow near Boise and Weiser, Idaho. Seed set was poor, but plants of this perennial species experienced no mortality from the drought.

In arid environments, a main adaptation of annuals to drought is long-term storage in soil. Several annuals appeared to have 'gone extinct' in 1990, but we have drought to blame for lack of plants. Harper Valley fiddleneck (*Amsinckia carinata*), a species restricted to odd yellowish soils near Harper, did not come up, nor did smooth blazing star (*Mentzelia mollis*), an endemic of Succor Creek ash beds. However, Packard's blazing star (*Mentzelia packardiae*) and Etter's groundsel (*Senecio etterae*) grew very well in several locations in the Leslie Gulch area. We anticipate adequate seed resources for all these species from the good growing year and high numbers of plants of 1989. Monitoring will be conducted on the rare annuals in 1991 and beyond to verify population maintenance.

On the hope that the district held one of Oregon's federally listed species, we search for several days (one by helicopter) for MacFarlane's four-o'clock (*Mirabilis macfarlanei*) near the confluence of the Grande Ronde and Snake Rivers. The species grows south of the district on Forest Service lands near the Snake. Unfortunately, our efforts were in vain, but more acres are not yet inventoried.

Several new sitings for Snake River goldenweed (*Haplopappus radiatus*) were made in year's field season. We had funded a challenge cost share project with the Oregon Department of Agriculture (ODA) in 1989, and numerous new sitings were made then as well. We are now fairly comfortable

with our knowledge of the range and habitats of this species. Our concerns are now about potential threats to the species, including habitat destruction from livestock grazing and insect predation on seeds. Next year (1992) we are embarking on another challenge cost share project with ODA which includes several fenced enclosures and a study of population dynamics on the goldenweed.

Golden buckwheat (*Eriogonum chrysops*), remarkably rediscovered by Carolyn Wright several years ago near Skull Springs, is thriving. However, at one site rodents seem to be harvesting many individuals of the stand. This very rare buckwheat merits further study, and we are planning to establish permanent study plots in 1991.

Other projects for 1991 include a challenge cost share inventory with The Nature Conservancy primarily for spectacular thelypody (*Thelypodium howellii* spp. *spectabilis*) and Oregon semaphore grass (*Pleuropogon oregonus*), the inventory will be conducted on scattered lands near Baker City. We had also intended to fund a study with ODA on the fiddleneck near Harper, but the continuing drought has led us to change direction and pursue further studies on sterile milk-vetch. We were pleased to welcome several chapters of NPSO, led by Stu Garrett from Bend, to the Leslie Gulch area in May of 1990. The weekend was not only enjoyable but productive as well: three new sightings for the rare Owyhee clover (*Trifolium owyheense*) were added to the district maps.

Although the drought seems to be lingering in our area, all NPSO members, fellow botanists and plant lovers are invited to visit the Vale District during the field season. The best times to come are May through early July. We hope the 1991 season is as interesting and fruitful as last year's. Be sure to keep in touch as you make exciting finds on our public lands.

—Jean Findley, Botanist
Bureau of Land Management



Taxus brevifolia
Pacific Yew
From *Manual of Trees of North America*
By C.S. Sargent

YEW TREES NEED MANAGEMENT PLAN

The following editorial, in a slightly different form, appeared in the *Eugene Register-Guard* in April, 1991:

The NPSO is concerned about the fate of Pacific yew (*Taxus brevifolia*), now that it appears that it may be the source of a life-saving drug for women suffering from ovarian cancer. Our society wishes to see everything possible done to treat this dread disease; on the other hand, NPSO fears that in the rush to satisfy pharmaceutical company demands, consideration of the long-range survival of the yew may be ignored. Wayne Orr, former Forest Service ranger from Oakridge, recently said this about the yew: "It was a weed species. It had no use. You didn't care if it was there or not." NPSO regrets this attitude about native plants. Our society is "dedicated to the enjoyment, conservation and study of Oregon's native vegetation." In keeping with this purpose, we would like to present readers some facts about Pacific yew. Yews are unique. The fossil record shows they have been around since the time of the dinosaurs---100 to 200 million years. They are considerably older than the firs, pines and cedars which are so common here today. Despite its needle-like foliage, it is not a conifer. Yewwood and bark are different from those of conifers and unlike conifers yews have separate sexes, with male trees that produce pollen, and female trees that produce seeds. Finally, the seeds of the female yew trees are not borne in cones, but are produced singly, with each seed surrounded by a fleshy red structure which botanists call an aril, and non-botanists often refer to as a "berry." The wood of the yew is also unique. The xylem cells---the cells that carry water up from the roots---have extra spiral thickenings in their walls. This feature makes yew wood flexible and "springy." Ancient peoples found this feature of yew, and made bows from it. Yew is still in demand today to make the finest bows. The yew family, *Taxaceae*, is not large and most members grow in the Old World and the Far East. Four species of yew grow in North America, but the Pacific yew is apparently unique in that its bark is very rich in taxol. Botanists have always known that yew seeds, needles and bark contain this poisonous compound, but taxol's hitherto unsuspected cancer-fighting properties have caused the sudden rush to harvest yew

bark, and this has led to the concern of NPSO about the welfare of the yew. At the present time, taxol is being used experimentally to treat ovarian cancer. If studies by the huge drug conglomerate, Bristol-Myers Squibb Company, demonstrate that taxol is indeed an effective anti-cancer agent, it is virtually certain that taxol will eventually be produced synthetically or via genetic engineering. Meanwhile, the National Forests of Oregon and Washington have promised the drug company 750,000 pounds of dried yew bark for experiments this year. It has been predicted that a local bark shredding plant in Cot-tage Grove will soon be processing 10,000 pounds of bark a day. This rate of harvest of these rare, small, slow-growing trees could wreak havoc on the survival ability of the Pacific yew. As far as the NPSO has been able to learn, the USFS has written no Environmental Impact Statement on the effects of this level of harvest on the Pacific yew. In addition, the Forest Service has not indicated how the harvest of yew bark will be spread over the various National Forests in the region. In fact, they have indicated that they do not know how many of the rather rare yew trees actually grow on our forests. NPSO has written to the Forest Service, asking that they inventory yews throughout the region with special attention to distribution, number and age of trees, distribution of male and female trees and analysis of the trees' genetic makeup. We have also asked the Forest Service to begin replanting yews in logged areas. And we have asked that during replanting, efforts be made to use local genotypes and insure a natural mix of male and female trees. And we have strongly recommended that Forest Service biologists write a long-range plan which will provide for a sustainable taxol harvest while preserving yews as part of the natural biodiversity of our forests. The NPSO believes that it is a serious mistake to rush to harvest hundreds of thousands of pounds of yew bark for experimental purposes, when knowledge of the numbers and natural distribution of the yew tree is incomplete. The former Forest Service ranger quoted above claims that he doesn't remember ever seeing a yew tree. Now there is a mad scramble to cut thousands of these rare, unique and ancient trees before the it is known how many exist and before plans are in place to protect the species. NPSO asks the Forest Service to issue only limited permits for yew bark harvest until the biology of Pacific yew is better understood. Only when they are certain that a sus-

tainable harvest can be maintained, should the Forest Service, the guardian of our public lands, decide if they can provide the amount of bark requested by the drug companies. In the short run, a few more cancer deaths may be prevented by overharvesting now, but in the long run, many more lives can be saved by keeping yew trees alive and well, and reproducing in the Northwest woods as they have for over a hundred million years.

--Rhoda Love, Emerald Chapter

MUCHAS GRACIAS!!!

I very much appreciate the NPSO "Wise Use of Native Plants Award" for the Rowena Crest Native Plant Garden. I felt as if we had won a Nobel Prize. Many people have worked hard to restore the mounded prairie topography and plant the natives indigenous to these sites in the Columbia River Gorge. I'd like to give special thanks to Russ Jolley for collecting all the wildflower seed for this year's plantings and to the Oregon State Parks for all their construction efforts. Volunteers planted over 2,000 grasses and wildflowers the first week in March through snow and rain. The weather was great for the plants, not for the planters. The Portland Garden Club members grew many good seedlings for us to transplant this year. The project is beginning to take shape and look very professional with the addition of the species ID signs volunteered by Susan Wilcox of the Berry Botanic Garden. I would like to invite all NPSO members to help us dedicate the Robert E. Ellis Memorial at the Rowena Crest Garden on June 16th as part of the celebration of the Scenic Highway's 75th anniversary. It was a grant from the Oregon Roadside Council in memory of this Oregon Conservationist that enabled TNC to undertake this project. Hope to see you there or at our knapweed control work parties May 11th and June 29th.

I'm enjoying life out here in La Grande. Come visit The Nature Conservancy's Northeast Oregon office at Eastern Oregon State College.

---Berta Youtie,
NE Oregon Stewardship Ecologist
PO Box 1188
La Grande Or. 97850
503-962-3903

BITS AND PIECES

—NEWS AND INFORMATION FROM ALL OVER

THIS SEASON AT TOM MCCALL PRESERVE

On Sunday, May 19th at 9am a guided birding hike to the top of McCall Point will feature birds in a variety of habitats. Ospreys, hawks, eagles and a variety of other birds are expected.

Knapweed pulls will take place on May 11th and June 29th. Help control the invasive diffuse knapweed and enjoy the spectacular views and flowers of the Gorge. Bring weedpulling tools, gloves, lunch, drink, and energy. Meet at the Rowena Crest Viewpoint.

Guided wildflower walks are scheduled to take place May 4th and 25th. Meet at the Preserve entrance at 1pm. A naturalist will be available at the preserve weekends through May 26th, 11am to 4pm.

Please preregister for all events, and gather further information, by calling The Nature Conservancy Office at 228-9561.

Arizona Revises Native Plant Laws

This state last year overhauled its laws meant to protect its native flora. They emphasize 'salvage' of native plants during development-related disturbance, as well as outright preservation on site.

This new law has five categories for native plants:

- * "Highly safeguarded"—Includes Threatened and Endangered Plants, including federally listed species.
- * "Salvage restricted"—Covers most of the Cacti.
- * "Export restricted"—Covers plants threatened by collection or other depleting forces.
- * "Salvage assessed"—Includes most common desert trees.
- * "Harvest restricted"—Includes forest trees harvested for wood.

More information about these laws can be found by calling Elaine Arena at 602-860-2727.

MOUNT PISGAH ARBORETUM

WILDFLOWER SHOW MAY 19TH

This major show features both collected wild-flower displays and the native plants growing throughout the Arboretum. Also featured is a plant sale, sales of posters, t-shirts and other items, an exhibit on David Douglas, a Rare and Endangered plant slide show by NPSO's Charlene Simpson, and special exhibits and activities for children. William L. Sullivan, author of 100 hikes in the Central Oregon Cascades, and Don Eastman, author of Rare & Endangered Plants of Oregon, will both be selling and autographing their books. For further information call Susan Lowenkron (747-3817).

HPSO NATIVE PLANT WORKSHOP

This workshop to be presented by the Hardy Plant Society of Oregon will discuss incorporating native plants and natural scenery into landscapes. Emphasis will be on specific plant groupings, cultural requirements, and natural design features, as well as garden tours and plant sales. Speakers will include C. Coleston Burrell, curator of plant collections at the University of Minnesota Landscape Arboretum, and Linda McMahan of Berry Botanic Garden. The date is May 25th, and the location will be the new Portland Convention Center on Martin Luther King Jr. Blvd. in Portland.

SPROUTS

This interesting new publication from the Mount Hood National Forest is subtitled "New plans for the Mt. Hood National Forest". It contains short feature articles on Environmental Impact Statements and other plans for the National Forest, as well as hints on how to become involved in the Planning process. A listing by Ranger District of many proposed development activities on the Forest ranges from campground creation to logging to road obliteration to ski area expansion. The 8 pages of the first issue seem a sincere effort to inform the public about the many development and use issues facing Mount Hood National Forest today. Contact the Forest at 2955 NW Division, Gresham OR 97030 (666-0700) for more info.

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GUIDELINES FOR CONTRIBUTORS

The NPSO Bulletin is published monthly as a service to NPSO members and the public. Contributions of all types are welcome.

DEADLINE Copy is due with the editor by the 10th of each month.

Text Format: Submissions can be in any form. Camera-ready copy should be in 3.534 in. wide columns up to 9.3 in. long, with .22 in column spacing. The Bulletin uses 12pt. Times font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article posted inside their favorite field guide.

Computer output: The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modem. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are usable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article.

Credits: If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion.

Scientific Names: Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize* genus and species (underline if italic is not available).

Return of Originals: Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all.

Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____	Chapter (if known) _____
Address _____	Is this a change of address? _____
City _____ State _____ Zip+4 _____	If so, please write your Old Address here: _____
Phone (Home) _____ (Work) _____	City _____ State _____ Zip _____

* **DUES** include monthly NPSO Bulletin. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() Bulletin Subscription only	\$12.00
() Student			\$ 8.00	() Sustaining	\$ 30.00
() Regular			12.00	() Patron	100.00
() Family Membership			18.00	() Life Member	500.00

* CONTRIBUTIONS:

Jean Davis Memorial Award Fund	\$ _____
Leighton Ho Memorial Award Fund	\$ _____
Rare and Endangered Plant Fund	\$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:

Mary Falconer, NPSO Membership Chair, 1920 Engel Court NW, Salem, Oregon 97304.

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Send change of address notices to:
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 2584 NW Savier St.,
 Portland, OR 97210

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NATIVE PLANT SOCIETY OF OREGON

Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

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HAVE YOU EXPIRED?

---or have we buried you prematurely? During the recent change of guard in the mailing committee, several membership renewals were not recorded in our computer. Please check your mailing label: if there is a yellow "90" next to your name, you are listed as not renewed for 1991, and you will not receive any future *Bulletins*. *If you have really renewed, please notify the Membership Committee.* If there is no number next to your name, you are enrolled for 1991. If you did not receive *Kalmiopsis*, and wish to have a copy, please notify the Membership Committee---

Jan and Dave Dobak
2584 NW Savier St.
Portland Or 97210-2412
503-248-9242

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.



Recycled Paper

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. As we are often in the position of asking them to follow their rules and regulations for conservation of our natural resources, it's time for us to do the same. Each group using wilderness must be no larger than 12.

CHAPTER NEWS

Blue Mountain

1 June, Sat.

FIELD TRIP. Bruce Barnes will lead a trip up Buck Creek on the upper Umatilla River. Leave from the BMCC Greenhouse at 8am.

9 June, Sun.

FIELD TRIP. Jerry Baker will lead a trip up Ruckle Ridge. Leave from the BMCC Greenhouse at 8am.

Corvallis

1 June, Sat.

FIELD TRIP to Fern Ridge Reservoir with Kathy Connelly to look at wet prairie plants. Leave at 10am from the parking lot across from the Monroe Beanery. Bring a sack lunch, rain gear and appropriate walking gear. Contact Esther McEvoy for more information (754-0893).

- 8 June, Sat. **FIELD TRIP** to Mary's Peak to look at the spring wildflowers. Leave 9am from the parking lot across from the Monroe Beanery. Contact Esther McEvoy for more information (754-0893).
- 10 June, Mon. **MEETING.** 7:30 pm at the Herbarium Library (Room 4083, Cordley Hall, OSU). Our speaker will be Dr. Ken Chambers; his topic is "Does Every Species Really Count?"
- 30 June, Sun. **FIELD TRIP** to Iron/Cone Mountain, a joint trip with the Salem Chapter. Leader is Dan Luoma. Leave 8am from the parking lot across from the Monroe Beanery.

Emerald

- 8 June, Sat. **FIELD TRIP** to the north shore of Lookout Point Reservoir. We will be bicycling to complete an inventory of plants along the north shore road in a variety of habitats including open rock outcrops, forested zones and riparian areas. Good opportunity to sharpen your plant keying skills and gain familiarity with both common and some uncommon plants of the Western Cascades. Depart from South Eugene High School parking lot corner of 19th and Patterson at 9:30am. Bring bicycle, handlens, lunch and drink. Trip leader: Jenny Dimling (343-3242).
- 22 June, Sat. **FIELD TRIP.** Willamette Forest botanist Jenny Dimling will lead a field trip to Wolf and Wildcat Mountain and nearby Wolf Lake in the Blue River ranger District to explore this unique botanical area and survey the flora. Depart from South Eugene High School parking lot corner of 19th and Patterson at 9am. For further information call Jenny Dimling (343-3242).

High Desert

- 9 June, Sun. **FIELD TRIP** to Hatfield's High Desert Ranch. Depart from the Juniper Park parking lot (7th and NE Franklin in Bend) at 8:30 sharp. Doc and Connie Hatfield have invited us to tour their ranch 15 miles north of Brothers. They have practiced innovative ways of running cattle which are kinder and gentler on the land. Prescribed fire, juniper control, and riparian protection are only some of them. Easy hiking. Trip leader is Stu Garrett (389-6981) eves).

Mid-Columbia

- 5 June, Wed. **MEETING.** 7:30pm at the Mosier School. George Lewis of the Portland Chapter will present slide of native plants from his extensive travels through Oregon.
- 10 July, Wed. **MEETING.** 7:30pm at the Mosier School. Please note change this month only to the 2nd Wednesday of the month due to the 4th of July holiday. Program to be announced.

North Coast

- 22 June, Sat. **MEETING/FIELD TRIP.** Our group will assist Bill Miles in planting of 1000 wildflowers at Bear Creek Artichokes in Beaver. For more information call Sallie Jacobsen (842-4350).

Portland

- 1 June, Sat. **FIELD TRIP:** Lois Kemp will show slides of unusual plants of the Gorge between 10 and 12am at Leach Botanical Garden. She will also show how to identify plants using Hitchcock to key a weed species. Bring lunch to eat besides Johnson Creek. After lunch see fern propagation and more of the garden. Meet 10am at the garden's Manor House, 6704 SE 122nd Avenue, south of Foster. Park south of the bridge. For information, call Charlene Holzwarth (384-3444).
- 9 June, Sun. **FIELD TRIP:** Join Del Blackburn of Clark College when he leads his botany students to Gumboog Bog in the Gifford Pinchot National Forest. Leave at 9:30am from the 134th St. Park and Ride off of I-5 north of Vancouver, Wa., or at 11am at Sunset Campground on the Lewis River. For information call Nancy Fahey (206-694-2902).
- 11 June, Tue. **MEETING.** 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. Lois Kemp will be showing slides of native plants of Oregon, rescheduled from last month.

15 June, Sat.

FIELD TRIP: Carroll DuBuar will lead a joint NPSO-Friends of the Columbia River Gorge moderate 6.5 mile hike along the Pacific Crest Trail. The route will pass Gillette Lake and go to Greenleaf Basin Overlook. Leave at 8:30am from the DOT parking lot at 60th and Glisan, Or at 9:30am at the trailhead, across Washington State Highway 14 from Bonneville Dam (2 miles west of the north end of the Bridge of the Gods). Leader is Carroll DuBuar (234-4135).

28-30 June

CONFERENCE WITH FIELD TRIPS: Jointly sponsored by the Portland Chapter NPSO, Leach Botanical Garden, Berry Botanic Garden and Hoyt Arboretum. The theme is "Nature in the Garden" and "The Garden in Nature". Registration fee is \$75.

6 July, Sat.

FIELD TRIP: 'Right Angle Viewpoint' on the Clackamas & Molalla watershed divide, an area new to the NPSO. Spectacular views, unusual geologic features, old growth, and an excellent wildflower display. Gain about 300' to 4900' on an approx. 3 mile round trip. Leave at 8:30am from the K-Mart at 82nd & Milwaukie Expressway. Leader: Bryan Boyce (655-4457).

13 July, Sat.

FIELD TRIP: Destination is 5334' Mount Lowe in the Upper Clackamas drainage. Typical West Cascades flora with some old growth. Call leader Bob Powne (292-5364) for more information.

Siskiyou

13 June, Thurs.

MEETING. 7:30pm in Room 171 of the Science Building at Southern Oregon State College. John Irwin will show slides on a potpourri of wildflowers.

9 June, Sun.

FIELD TRIP: Babyfoot Lake and proposed Howell Memorial Drive. Anita Seda, botanist for the Illinois Valley Ranger District will lead us to Babyfoot Lake, Fiddler Mountain, and the proposed Howell Memorial Drive. Plants we'll see are *Draba howellii*, *Fritillaria glauca*, Brewer's spruce, and *Lewisia cotyledon* var. *purdyi*. Leave at 8am from the Food 4 Less lot in Medford, at 8:45am from the Grants Pass BiMart or Selma Market at 9:30am. Contact Anita Seda (592-2166) for more information.

22 June, Sat.

Field Trip for *Calochortus costii*. Frank Callahan and Ray Godfrey will lead a joint trip with the Umpqua Valley Chapter to several populations. A moderate hike of about one hour with some botanizing along the way. Meet Frank Callahan at 8am in the parking lot of the Siskiyou National Forest Supervisor's office. (At the north Grants Pass exit on I-5, turn right at the stop sign, then another quick right onto Greenfield Road, driveway on left.) Interested people from the Roseburg area meet Ray Godfrey at McDonalds (take Garden Valley Exit 125, then east to McDonalds). At 9:15am everyone converge at the Boomer Hill exit on I-5 (just north of Myrtle Creek). For more info call Frank (855-1164) or Ray (673-5094).

Umpqua Valley

8 June, Sat.

Field Trip. This is a good time to look for *Calochortus umpquenses* in its habitat from river to 2000' elevation. Meet 7:45 am BLM parking lot, 777 Garden Valley Road for carpooling, leave 8 am. Coordiator, 673-3709.

13 June, Thur.

MEETING. NE US alpine flora by Peter Zaka. 7pm Room 310 Douglas County Courthouse, Roseburg. For more information call Russ Holmes (672-4635).

22 June, Sat.

Field Trip. Look for *Calochortus costii* with the Siskiyou Chapter. Frank Callahan and Ray Godfrey will lead a trip to several populations. A moderate hike of about one hour with some botanizing along the way. See Siskiyou Chapter schedule. Meet Ray Godfrey at McDonalds (take Garden Valley Exit 125, then east to McDonalds). At 9:15am everyone converge at the Boomer Hill exit on I-5 (just north of Myrtle Creek). For more info call Frank (855-1164) or Ray (673-5094).

Willamette Valley

22 June, Sat.

Field Trip. Mill Creek near Buell. Car pool from west Salem Safeway parking lot at 9am or from the Buell Fire Department building at about 9:30am.

- 30 June, Sun. **Field Trip.** Iron/Cone Peak in Willamette National Forest. Leader is Dan Luoma. Car pool from west Salem Safeway parking lot at 8am or from the Tombstone Pass parking area on Highway 20 at 9:30am. A joint trip with the Corvallis Chapter.
- 13 July, Sat. **FIELD TRIP.** Andrews Experimental Forest, Blue River Ranger District, Willamette NF. Leader is Art McKee. Leave from South Salem K-Mart at 8am or meet at the experimental forest headquarters at 11:30am.
- William Cusick**
- 8 June, Sat. **Field Trip** to Morgan Lake near LaGrande. Come learn about aquatic and moist site plants with Eastern Oregon College professor Karen Antell. Contact her at 962-3610 for meeting time and place.
- 22 June, Sat. **Field Trip** to Government Draw Research Natural Area in the LaGrande Ranger District, Wallowa-Whitman National Forest. Come see old growth ponderosa pine forest in an area that has not been grazed for 25 years. Contact Paula Brooks (523-7564) for more information.
- 29 June, Sat. **Field Trip** to Mt. Howard in the Eagle Cap Ranger District, Wallowa-Whitman National Forest. Come ride the Tramway (fare is \$9 roundtrip) to the top of 8,000' Mt. Howard to see sub-alpine plants and the rare Greenman's lomatium. Contact Marty Stein (426-4978 days; 426-3443 eves) for more information.
- 13 July, Sat. **Field Trip** to visit the John Day area with Malheur National Forest botanist Greg Lind. Hike will be in the Cedar Grove Botanical Area and the Baldy Mountain Research Natural Area. Contact Greg (820-3311 days; 820-4759 eves) for more information.

WELCOMING OUR NEW MEMBERS....

We have 18 new members as of May 12th!

Corvallis Chapter	Butch Field
High Desert Chapter	Joan Ellis
	L.D. & Natalie MacKellar
	Ruth Burleigh
Yvonne Winsor	
Mid-Columbia Chapter	Julie Sanderson
	Sue Allen
North Coast Chapter	Sandy Polishuk
Portland Chapter	Angelica Adams
	Cathy Olson
	Terry Medaris
	Walt & Karen Trandum
Siskiyou Chapter	Tom & Barbara Mathieson
Willamette Valley Chapter	Jim Crane
	Jo Yeager
William Cusick Chapter	Lavada Nudo
At Large	David Lloyd
	Karen Wiese

THRIFT IS BOTH NATIVE AND INTRODUCED IN OREGON

"Thrift" can mean different things to different people, but as the common name of a plant it refers to *Armeria maritima*, an attractive pink-petalled wildflower found on sandy bluffs all along the Oregon Coast. The genus *Armeria* is reported to contain around 80 species, of which 43 occur in Europe. In several species, cultivated varieties have been developed which are grown as garden border-plants, often under the name Statice. *Armeria maritima* is the only species native in North America. It has a wide natural distribution in Europe and throughout the Arctic regions, extending down the Pacific Coast from Alaska to California, then jumping to the southern tip of South America. The plants of Oregon and California have been grouped taxonomically as var. *californica*, separate from var. *purpurea* and var. *sibirica* of the Arctic (see figures 1 and 2).

Beginning in the 1950's, studies of *Armeria* by Prof. Herbert Baker, of the University of California, Berkeley, revealed a fascinating but subtle story of variable reproductive systems in *A. maritima*. This species was found to have two diametrically opposed methods of pollination; in Europe, successful reproduction can only occur by cross-pollination between different individual plants (technically known as outcrossing or xenogamy); in the Arctic and throughout the New

World, the species reproduces very successfully by selfpollination within individuals (known as inbreeding or autogamy). This reproductive difference is genetically controlled in a complex way, involving genes that affect the ability of particular pollen grains to germinate and grow on particular kinds of stigmas. Luckily for botanists who wish to study this phenomenon, a microscopic examination of pollen and stigmas from a single flower can instantly tell us whether the plant is an "out-croser" or an "inbreeder."

What one would see under the microscope is shown in figures 3, 4, and 5. All populations of *Armeria maritima* in Europe, south of the Arctic region, contain equal proportions of two kinds of individuals—one-half the plants have the pollen and stigma types shown in Fig. 3, the other half have the pollen and stigmas shown in Fig. 4. The pollen of Fig. 3 will only germinate if transferred to the stigma of Fig. 4, and vice versa (pollen of Fig. 4 transferred to a stigma of Fig. 3). No plant in Europe can self-pollinate, because the pollen of a given flower is never "compatible" with the stigmas of the same flower! Flowers of this species occur in showy heads which are attractive to bees and other insects; pollen is picked up and carried from plant to plant, thus ensuring successful cross-pollination.

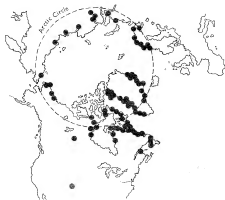


Fig. 1 Circumpolar distribution of *Armeria maritima* subsp. *sibirica* (includes var. *labradorica*).



Fig. 2 Distribution of *Armeria maritima* subsp. *purpurea* (circles) and *A. m.* subsp. *californica* (triangles). Not in detail for Puget Sound area

Plants of the Arctic and the western coasts of North and South America are changed genetically from the European type—they are all alike in having the pollen and stigma forms shown in figure 5. Note that this flower combines the pollen type of Fig. 3 with the stigma type of Fig. 4! Such plants are self-compatible, and insect visitors can readily spread pollen from the anthers to the stigmas of the same flower, as well as between flowers and between plants. This self-compatible pollen performs the necessary fertilization and seed production, even on a plant that is physically isolated from all other members of the species. Thus, a single seed of Arctic or New World *Armeria* can disperse to a distant site, germinate, and start a new colony via self-fertilization. But plants from Europe, unable to self-fertilize, can only start new colonies by the lucky joint migration of a minimum of two plants, one of the Fig. 3-type and one of Fig. 4-type. The success of *Armeria maritima* in spreading throughout the Far North, thence south to California, and jumping the tropics to South America, evidently depended on gene mutations that shifted the flowers from the outcrossing to the self-fertilizing form. Many other plant genera also illustrate this change in mode of reproduction, but very few display the telltale characteristics of pollen and stigmas seen in *Armeria*.

In 1977, two students at Oregon State University—Richard Halse and Hesh Kaplan—made herbarium collections of *Armeria maritima* from near Newport, Lincoln County, which we now know are quite peculiar. Not until 1990 was it pointed out to me by Xavier Vekemans, of the University of Brussels, Belgium, that these two collections represent the European form of the species. They have the pollen and stigma combination shown in figure 4; furthermore, they have hairy stems, like most European plants, not smooth (glabrous) stems like all native Oregon specimens. To assist Vekemans' research, I have revisited the two sites that were sampled by Halse and Kaplan in 1977. Halse's plants came from "1.3 miles north of Lost Creek State Park," by Hwy. 101 south of Newport. In 1990 I found that *Armeria* is no longer present at this site. Kaplan's collection was from near the lighthouse on Yaquina Head, north of Agate Beach. On my visit there last year, I found a small colony of *Armeria* on the steep south-facing cliff below the lighthouse. Some of the plants were hairy-stemmed and some were smooth-stemmed. I took a flower-head from each of 15 plants and sent them to Vekemans for his study.

The results of Vekemans' research were very unexpected. He found that all of my sampled plants had "Oregon-type" flowers (as in Fig. 5), but all except one were sterile; that is, 99-100% of their pollen grains were aborted and nonfunctional! The one plant with fertile pollen had a glabrous stem and formed normal seeds, so it was a typical Oregon native. The hairy-stemmed plants are probably sterile hybrids, formed by crosses of the fertile "European-type" plant collected by Kaplan in 1977 with native-occurring "Oregon-type" plants. The pollen-type shown in Figs. 3 and 5 is known to be genetically "dominant" over the type in Kaplan's plant (Fig. 4), while the hairy-stem trait is dominant over smooth stems. Hence the expected hybrid combination would be hairy stems plus "Oregon-type" flowers (Fig. 5). The sterility of the plants' pollen and seeds probably results from numerous hidden genetic and chromosomal differences, which accumulated over evolutionary time as the species slowly migrated step by step from Europe to Oregon.

Do any European-type plants still exist here, either at Yaquina Head or elsewhere on the coast? Furthermore, how did such plants arrive in Oregon in the first place? The first question can pose a challenge to members of the Native Plant Society of Oregon! You can help us by looking for hairy-stemmed plants wherever you see *Armeria* growing on the Oregon Coast. The second question may never be answered satisfactorily; however, a strong possibility is that the European form of the species was in cultivation in someone's garden and "escaped" into nature, where it could reproduce only by cross-pollinating with its Oregon cousins.

---Ken Chambers,
Corvallis Chapter



Fig. 3. Highly magnified view of a pollen-grain (left) and a stigma (right) of the "Type-A, cob" flowers of European *Armeria*.

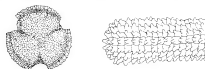


Fig. 4. Similar magnified view of a pollen-grain and stigma of the "Type-B, pap" flowers of European *Armeria*.

**ANNUAL MEETING SPEAKER:
"NPSO IN PERFECT POSITION
TO INFLUENCE LOCAL AND
NATIONAL ACTIVITIES"**

Dr. Linda R. McMahan, Executive Director of the Berry Botanic Garden in Portland will be the featured banquet speaker at the NPSO Annual Meeting in Eugene June 15. Dr. McMahan attended Oregon State University in Corvallis for a time and received her BA and PhD in Botany from the University of Texas at Austin. Dr. McMahan later earned a Juris Doctor degree in law from the American University Law School in Washington DC. Before taking up the Directorship of the Berry Garden, Dr. McMahan was the Director of Botanic Garden Programs, Center for Plant Conservation, Jamaica Plain, Massachusetts and before that she was Senior Botanist, Plant Conservation Program, World Wildlife Fund, Washington DC.

At the NPSO Annual Meeting this month in Eugene, Dr. McMahan will speak on "Conserving Plant Diversity: Challenge for the 1990's." Over 25,000 species of plants world wide are threatened with extinction. As many as 250 of these are native to our own area, the Pacific Northwest. Conservationists tell us that there is little time left to conserve the diversity in nature. Although many groups are working on the problem, much remains to be done. In her after-dinner address, Dr. McMahan will outline the unique opportunities available to members of the Native Plant Society of Oregon as participants in conserving nature. Dr. McMahan has written: "NPSO is in a perfect position to influence local activities, even at a national level. It is a role we cannot count on others to fill."

--Rhoda Love
Emerald Chapter

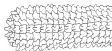


Fig. 5. Magnified view of a pollen-grain and stigma of the "Type-A, pap" self-compatible flowers of Arctic & Pacific Coast *Armeria*

LEGISLATIVE NOTES

It is difficult to write about a number of the issues since by the time you receive this *Bulletin* the session will almost be over. I plan to give a detailed report about how a number of key issues worked out after the end of the session. Here is a brief update on the cyanide leach mining issue.

SB 1182 which is the "environmental" comprehensive approach to cyanide heap leach mining, has as of this writing had only one hearing and is supported by the Native Plant Society of Oregon and other conservation groups. It looks like it will rather be HB 2244—the agency's approach to cyanide heap leach mining—that may have a chance to make it through the session if it ever gets out of committee. We want legislation this session for regulation of cyanide heap leach mining because of the pending application for permitting by Atlas at Grassy Mountain. Hopefully the Atlas project will not be allowed exceptions, grandfathered or other special exemptions in HB 2244.

I have been participating with the Mining Work Group which is trying to resolve the issues relating to cyanide heap leach mining. The Mining Work Group is being orchestrated by Martha Pagel, Senior Policy Advisor for Natural Resources to the Governor. A number of the issues that have reached consensus by the group have been amended into HB 2244. At this time HB 2244 has a good administrative process and a lot of public involvement throughout the permitting process. Yet a number of key issues have not yet been resolved at this time. Some of the key issues that do not have consensus at this time are backfilling, reclamation, and a moratorium on permitting until proposed rules and changes in laws are in place.

Remember that we need legislation this session as current law does not require public input or real reclamation. I hope you have written or called your representative, senator, or the governor about this important issue. You should follow the progress of this mining issue and the development of HB 2244. Let us make sure that we get legislation **THIS SESSION.**

1-800-322-2313 Bill information
1-800-327-7389 Legislators and Committee Staff.

—Esther McEvoy
Legislative Committee Chair

COWS: JUST A BAD MEMORY AT HART MOUNTAIN

A powerful coalition of environmental groups brought a stop to grazing on the 241,000 acre Hart Mountain National Antelope Refuge this April. Not participating—but prime beneficiaries—of this are native plant enthusiasts: of the 11 million acres of public land in southeastern Oregon, only at Hart Mountain can ungrazed high desert native flora be enjoyed.

Citing unequivocal language in the Refuge's 1935 Organic Act, the Sierra Club Legal Defense Fund filed for a preliminary injunction on March 25 in Federal District Court in Eugene. The Refuge preempted the filing by cancelling all grazing for the 1991 season, supposedly because of drought conditions. SCLDF responded with a motion for a permanent injunction to be heard this July.

Federal law requires secondary economic uses of refuges—such as grazing—to be compatible with the primary purpose, in this case, antelope protection. However, the Refuge's own data showed that four grazing permittees took some 90% of the forage. Mortality due to barb-wire cross fencing and contaminated reservoirs also took their toll.

Antelope were barely hanging on in dry years, with refuge boundaries not reflecting their four-season biological needs.

Accordingly, Tim Lillebo of the Oregon Natural Resource Council has taken matters a step farther, calling for a link-up with Sheldon Refuge to the south, Warner Potholes ACEC to the west and proposed wilderness areas to the east. The proposal assumes acceptance of a pending Nature Conservancy bid for private lands of the MC Ranch and a cooperative management agreement on the heavily grazed 0600 BLM allotment associated with the ranch.

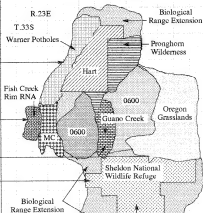
Meanwhile, the first halt of grazing in 55 years has unleashed a torrent of scientific proposals to study an expected rebound of native plants, wildlife, and riparian ecosystems. Ecologists and botanists (including R&E specialist Dick van der Schaaf), ornithologists, fisheries biologists, big-horn and sage grouse experts, and university groups are converging on the mountain this summer. (Volunteers are needed for plant studies: call 947-2950 if you have a week or more to offer.)

--Tom Pringle
Emerald Chapter

Endemic Plants

Sesuvium verrucosum
Melica stricta
Eriogonum crosbyae
Astragalus alvordensis
Dimeresia howellii
Draba douglasii var. *douglasii*
Eriogonum desertorum var. *novum*
Eriogonum rubricaulis
Nemacladus rigidus
Silene scaposa var. *lobata*
Trifolium andersonii ssp. *beatleyae*
Pediocactus simpsonii

Hart-Sheldon Mega-Preserve



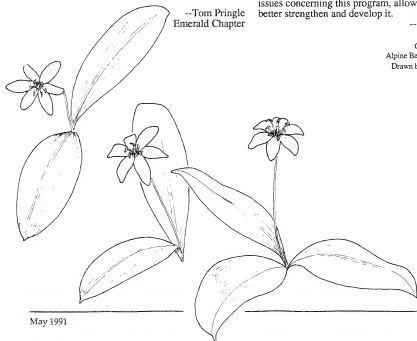
BOTANICAL AREA MAPS!

Ever try to find your way to a new botanical area, only to find locked gates and a maze of unsigned roads? Ever wonder where the preserve boundaries were once you finally got there?

Well, I have...and I did something about it: a 512 page book of 8.5" x 11" maps of Oregon botanical areas across the state: from coastal headlands to Willowa alpine lakes, from Owyhee canyons to Siskiyou ridgetops. Included are Forest Service, USFW, and BLM RNAs, ACECs, and Special Interest Areas, selected Nature Conservancy preserves, plus National and State Parks. Each map has a label giving facts on acreage, elevation range, administration and appropriate use, and the size of the computerized plant inventory. (An accompanying book of laser-printed plant lists will be available shortly!)

The book is available at cost to NPSO members in good standing. The price is \$14.03 + \$2.45 for postage. It can be purchased at the June Annual Meeting in Eugene without the postage charge.

--Tom Pringle
Emerald Chapter



1991 ELECTION RESULTS

Society members have sent in their ballots and the returns have been counted. Installation of our new officers will take place at the June annual meeting. Three new Directors will be coming on board, and all the officers from the 1990 slate will be returning for another year. In addition the amendment to the by-laws was approved.

The new Board members are Bill Hopkins of the High Desert Chapter, Warren Pavlat of Emerald Chapter, and Carolyn Wright of the Mid-Columbia Chapter. President Stephanie Schulz, Vice President Dan Luoma, Secretary Sue Vrilakas, and Treasurer Diane English are all retaining their present positions.

The new addition to the Society's by-laws will allow us to work more closely with the Oregon Department of Agriculture's Plant Conservation Biology Program. The amendment requires a representative from the Plant Conservation Biology Program be appointed as a ex-officio (non-voting) board member, with the purpose of reporting on issues concerning this program, allowing us to better strengthen and develop it.

--Bryan Boyce

Clintonia uniflora
Alpine Beauty or Bluehead
Drawn by Julie Kierstead

BITS AND PIECES

---NEWS AND INFORMATION FROM ALL OVER

CONGRESSIONAL BILLS PROPOSE TO ELIMINATE WETLANDS PROTECTIONS

The Environmental Protection Agency declared May "National Wetlands Month". Ironically, in May the EPA's role in wetlands protection was strongly attacked by bills that would remove the agency from authority in the Section 404 of the Clean Water Act permit process. And other proposals would in practical terms remove the Federal Government from regulation of wetland areas.

"The Comprehensive Wetlands Conservation and Management Act of 1991", the Hayes Bill (HR 1330), would designate the Army Corps of Engineers as the only regulatory agency overseeing dredging and filling of wetlands, eliminating the EPA's current ability to veto Corps' decisions. It also declares that Section 404, widely used to protect wetlands from destruction, is not a wetlands protection provision but rather is intended to encourage economic development. And it redefines what is jurisdictional wetland. The current method of wetlands determination, based on scientific methods combining plants, geology and hydrology, was worked out by several government agencies. The proposed alterations by the Hayes Bill would eliminate wetlands not underwater at least 21 days during the growing season (particularly harmful here where high water often occurs during the winter). The bill also would create a three tiered ranking system for wetlands (low, medium and high value), and would arbitrarily limit the amount of land in the high range to no more than 20% within any one county.

At press time the Lindsey-Thomas bill has just been introduced in the House. Details are not yet in but it appears that this bill also eliminates the EPA role, much to the shock of environmentalists who cooperated in drafting the bill. And President Bush, turning his back on his "no net loss" campaign promise, is proposing to eliminate from recognition as wetlands tens of millions of acres.

Wetlands are uniquely valuable, productive areas. They are home of many native plants, from rare to common. Many birds and other wildlife cannot exist without them. The decline of waterfowl populations is thought to be largely due to wetlands destruction. Wetlands filter and cleanse

water and limit flooding. We have already lost over half our original wetlands acreage to farming, urbanization and other development. Our current inadequate protection system is allowing elimination of hundreds of thousands of acres each year.

From whence comes this sudden onslaught against wetlands preservation? From developers, farmers, big timber, industrialists, and others who have at one time or another wanted to fill or otherwise alter wetland areas, and have been stopped by provisions of the Clean Water Act. Some recent actions by the EPA (like vetoing the Two Forks Dam in Colorado after Corps' approval) have made them a target. A general atmosphere that encourages attacks on environmental protection (the spotted owl controversy), spurred by a reaction to the success of environmental protection, and a basically anti-environmental administration.

Because of the essential value of wetlands to the nations ecosystems, it is important to let your congressmen know that you care about these crucial areas and want more protection for them, not less. Mention the importance of wetlands and the benefits they provide. Ask them not to support this bill, and to vote against it should it or similar bills reach the floor. President Bush should be reminded about his "no net loss" pledge, and ask him to support adding this goal to Section 404 and so strengthen it rather than drain it. Ask for better funding for wetland acquisition and restoration. Write to Representatives Les Aucoin, Bob Smith, Ron Wyden, Peter DeFazio, and Mike Kopetski:

The Honorable _____
US House of Representatives
Washington DC 20515

Write Senators Mark Hatfield and Bob Packwood:
The Honorable _____

US Senate
Washington DC 20510

Call them via the Congressional Switchboard at
202/224-3124.

Also: President George Bush

The White House
1600 Pennsylvania Ave., NW
Washington DC, 20500

The White House Switchboard number is
202/456-1414.

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BULLETIN EDITOR	Bryan Boyce
KALMOPUS EDITOR	Frank Lang

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The *NPSO Bulletin* is published monthly as a service to NPSO members and the public. Contributions of all types are welcome. **DEADLINE** Copy is due with the editor by the 10th of each month. **Text Format:** Submissions can be in any form. Camera-ready copy should be in 3.334 in. wide columns up to 9.3 in. long, with 22 in column spacing. The *Bulletin* uses 12pt. Times' font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article posted inside their favorite field guide. **Computer output:** The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modem. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are useable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article. **Credits:** If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion. **Scientific Names:** Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize* genus and species (underline if italic is not available). **Return of Originals:** Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all. Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____ Chapter (if known) _____
 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
 City _____ State _____ Zip+4 _____
 Phone (Home) _____ (Work) _____ City _____ State _____ Zip _____

* **DUES** include monthly *NPSO Bulletin*. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() <i>Bulletin</i> Subscription only	\$12.00
() Student			\$ 8.00	() Sustaining	\$ 30.00
() Regular			12.00	() Patron	100.00
() Family Membership			18.00	() Life Member	500.00

* **CONTRIBUTIONS:** Jan Davis Memorial Award Fund. \$ _____
 Leighton Ho Memorial Award Fund. \$ _____
 Rare and Endangered Plant Fund. \$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:
 Jan Dobak, NPSO Membership Chair, 2584 NW Savier St., Portland OR 97210.

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*Send change of address notices
and membership requests to:*
Native Plant Society of Oregon
Jan Dobak, Membership Chair,
2584 NW Savier St.,
Portland, Oregon 97210



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NATIVE PLANT SOCIETY OF OREGON

Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

VOLUME 24 NUMBER 7

JULY 1991

ISSN 0884-599

OUR 30TH ANNIVERSARY YEAR

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. As we are often in the position of asking them to follow their rules and regulations for conservation of our natural resources, it's time for us to do the same. Each group using wilderness must be no larger than 12.

Blue Mountain

6 July, Sat.

FIELD TRIP. Bruce Barnes will lead a field trip into the Willowa Mountains. Leave 8am from the Blue Mountain Community College greenhouse.

6 July, Sat.

FIELD TRIP. Jerry Baker will lead a field trip to Strawberry Lake in Central Oregon. Leave 7am from the Blue Mountain Community College greenhouse.

Corvallis

27 July, Sat.

FIELD TRIP to Netarts Bay with Bob Frenkel. Visit sand dunes, salt marshes, and beach. Leave at 8am from the parking lot across from the Monroe Beanery. Total of 6 miles level hiking. Contact Esther McEvoy for more information (754-0893).

Emerald

27 July, Sat.

FIELD TRIP. Join David Wagner of the UO Herbarium on a trip to Fairview Peak Roadless Area in the Bohemia District east of Cottage Grove to view the spectacular summer mountain wildflower display there. Depart from South Eugene High School parking lot (NE corner) at 9am. Bring handlens, rain clothes, lunch, drink. For Further information call Dave (346-3033).

High Desert

20 July, Sat.

FIELD TRIP: Pringle Falls Experimental Forest/RNA. Leave from the Juniper Park parking lot (7th & NE Greenwood in Bend) at 8:30am. Effects of both natural and planned fires will be seen. We will also visit the planned "Turn of the Century Forest" and understand the role fire will play in its development. Easy hiking. Call trip leader Bill Hopkins for details (389-3330).

20 July, Sat.

FIELD TRIP: Crater Lake National Park. We will visit Oregon's only National Park on this overnight campout. Our tour will include an examination of fire management in the ancient forests of the Park and visit to some rare plant locations. Moderate hiking. Please preregister with trip leader Stu Garrett at 389-6981 eves.

Mid-Columbia

10 July, Wed.

MEETING. 7:30pm at the Mosier School. Please note change this month only to the 2nd Wednesday of the month due to the 4th of July holiday. Russ Jolley will be our guest and present a program featuring "Restoration Efforts for Native Plants along the Eastern gorge Highway: Successes and Failures".

7 Aug., Wed.

MEETING. 7:30pm at Jerry Igo's estate. This will feature mid-summer flowering plants. Come early, 6:30pm, and join in a potluck dinner. Drive 5 miles up Dry Creek Rd. from Mosier, then look for signs. Call 478-3576 if you'd like to meet at Mosier and be escorted there.

North Coast

For information call Jean Gilbert (842-4801).

Portland

6 July, Sat.

FIELD TRIP: "Right Angle Viewpoint" on the Clackamas & Molalla watershed divide, an area new to the NPSO. Spectacular views, unusual geologic features, old growth, and an excellent wildflower display. Gain about 300' to 4900' on an approx. 3 mile round trip. Leave at 8:30am from the K-Mart at 82nd & Milwaukee Expressway. Leader: Bryan Boyce (655-4457).

9 July, Tue.

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. Bonnie Brunkow will give a presentation on the Willows.

13 July, Sat.

FIELD TRIP: Destination is 5334' Mount Lowe in the Upper Clackamas drainage. Great views and a good selection of upper elevation Western Cascade plants. Moderate hike of 2-3 miles. Leave from the new Estacada Ranger Station along Hwy. 224 at the north edge of Estacada at 9am. Call leader Bob Powne (292-5364) for more information. Optional will be a walk through some remnant low elevation old growth.

13 July, Sat.

FIELD TRIP: Bog-hop in the Gifford Pinchot N. F. McClellan Meadow, Lone Butte Meadow, Crazy Hills Bog, and South Prairie Bog (if time permits). Bring rubber boots or change of shoes. Leave at 8:30am from Lewis and Clark State Park off I-84. Leader is Bonnie Brunkow.

Siskiyou

20 July, Sat.

FIELD TRIP: Dutchman Peak/Observation Peak Botanical Areas on the Applegate Ranger District. Barbara Mumblo will lead a field trip to two high elevation botanical areas (time permitting). This will be an easy hike mostly on roads or trail. Leave from Star Ranger Station at 9am. For info, call Barbara Mumblo (899-1812).

Umpqua Valley

25 July, Thurs.

MEETING. Swiss alpine flora by Elisabeth Sommer from St. Gallen. 7pm in Room 310, Douglas County Courthouse, Roseburg. For more information call 673-3709.

27 July, Sat.

FIELD TRIP. Subalpine flora on Hershberger Mountain on the Rogue-Umpqua Divide. Leave from the BLM parking lot, 777 Garden Valley Rd., Roseburg at 7:45am.

Willamette Valley

13 July, Sat.

FIELD TRIP. Andrews Experimental Forest, Blue River Ranger District, Willamette NF. Leader is Art McKee. Leave from South Salem K-Mart at 8am or meet at the experimental forest headquarters at 11:30am.

William Cusick

13 July, Sat.

Field Trip to visit the John Day area with Malheur National Forest botanist Greg Lind. Hike will be in the Cedar Grove Botanical Area and the Baldy Mountain Research Natural Area. Contact Greg (820-3311 days; 820-4759 eves) for more information.

WELCOMING OUR NEW MEMBERS....

We have 14 new members this month!

Blue Mountain Chapter	Jane Keesey Marilyn K. Redfield Priscilla Dauble
Emerald Chapter	Marie Palumbo Oaupiti Robintree Carroll
Portland Chapter	Cindy Nielsen Mary k. Murphy Ruth Feiring
Siskiyou Chapter	Scarlett Miles
Umpqua Valley Chapter	Cindy L. Barkhurst Ray Godfrey
Willamette Valley Chapter	Frank Morgan Tom Jenkins
At Large	Molly E. Reeves

DAISIES WILL TELL-- HOW PLANTS PLAY THE NUMBERS GAME

Springtime brings us two familiar plants of the *Compositae* family--Oxeye-daisy and English-daisy--which can be used to play the "she loves me, she loves me not" numbers game. Remember how it works: you pluck the rays off the daisy head one at a time, chanting "she loves me, she loves me not," hoping that the final ray will send the message "she loves me." [Excuse my masculine bias; readers of the feminine gender may substitute "he" for "she"]. In mathematical terms, the game tests the probability that the number of ray flowers in a daisy head will be an odd number or an even number. It would obviously help us if there was scientific evidence that daisies, or any other kind of flower for that matter, showed a bias towards particular numbers of petals or rays.

Not surprisingly, such studies have been done, and the mathematical "rules" for petal numbers are well understood--although statistical fluctuations prevent us from knowing beforehand whether a particular daisy head will be "odd" or "even." As each of us learns early in our botanical studies, the numbers of different flower parts may be highly uniform and characteristic within particular plant families and genera. Flowers of family *Cruciferae* (the mustards), for example, "always have 4 petals and 6 stamens;" five is the standard number of petals in many other families of dicotyledons, while three or six are the characteristic numbers for families *Liliaceae* (lilies), *Iridaceae* (irises) and many other monocotyledons. In some families, on the other hand, the numbers of reproductive organs such as petals, stamens, or pistils vary from flower to flower. Such is the case also with the ray flowers in the heads of family *Compositae* (daisies, sunflowers, asters, etc.); each head is composed of two different kinds of flowers--ray and disc--but the number of ray and disc flowers usually varies from head to head. The variation can be described either statistically, based on the average number of ray and disc flowers in heads of a given species, or by emphasizing the most common numbers and skipping the rarer ones.

In Arthur Cronquist's description of two related species of goldenrod (*Solidago*), for example, *S. mollis* is said to have "about 8" ray flowers, while

S. canadensis has "about 13 (10-17)" ray flowers. Here, a taxonomist is using ray number to distinguish between two species, even though this number is not strictly fixed and constant.

When there are large numbers of flowers per head in a genus of *Compositae* and the numbers clearly are variable, taxonomists usually write simply "flowers numerous." This attitude of "I give up, there are too many to count" does not satisfy the purists among botanical morphologists, however. Students of plant morphology delight in finding mathematical regularities in floral development, and their key analytical model is the so-called Fibonacci numerical series (Leonardo Fibonacci, Italian mathematician, 1180-1250). In this series, each number is the sum of the two preceding numbers; it goes: 1, 1, 2, 3, 5, 8, 13, 21, 34, 55...etc. The series was already known to mathematicians of ancient Greece, who noted that the ratios of adjacent numbers (2/3, 3/5, 5/8, 8/13, etc.) approach a "golden ratio" of 0.6180339... The latter number also is mathematically unique in giving the same result when added to one as when divided into one ($1 + f = 1/f$, where $f =$ "the golden ratio").

Fibonacci numbers and ratios show up remarkably often in two features of plant morphology: the arrangement of leaves on the stem, flowers in a head, etc.; and the absolute numbers of plant organs such as bracts, sepals, petals, etc. Knowing how they affect the numbers of ray florets in daisy heads may help us to win the "love me, love me not" game. Spirally arranged leaves, bracts, and flowers have positional relationships which can be expressed by Fibonacci ratios. Consider the pine cone in Figure 1. The cone's bracts seem to form two obvious sets of spirals, one steeply slanted (A) and one more shallow (B). These apparent spirals (called parastichies) are the indirect result of an even more shallow spiral, which is the true developmental sequence of the bracts at the young cone's growing point. In this "developmental spiral," which is difficult to discern from the exterior of a mature cone, each successive bract attaches to the axis at a point ca. 140 degrees (2/5) around the circumference from the preceding bract. As a result, Fibonacci numbers determine how many evident bract spirals there will be; e.g., in the illus-

trated cone, 8 rows of steep spirals (A) and 5 rows of shallow spirals (B). Eight and five are adjacent numbers in the Fibonacci series! In each of the 8 steep spirals (A), the successive bracts are every eighth bract of the true "developmental spiral." In the cones of other conifer species, the numbers of steep and shallow parastichies may be larger, but always they will be Fibonacci numbers (e.g. 8 and 13, or 13 and 21). To return to the heads of family *Compositae*, Figure 2 shows that exactly the same Fibonacci "rules" apply to numbers and arrangement of ray and disc flowers. In this diagrammatic view of a circular receptacle, each numbered circle is a flower. They are numbered in developmental sequence, 1 to 21. The circumferential angle between successive florets (numbers 17 and 18 in the diagram) is 137.5 degrees, which is 360 degrees times the square of the "golden ratio" ($360 \times .38197\dots$, the "Fibonacci angle"). One set of 8 parastichies, running clockwise, is marked by bold lines drawn between numbered florets; each line connects florets that are eight apart in the developmental sequence (note: 1-9-17; 4-12-20, etc.). The other set of 5 parastichies runs counter-clockwise, and the florets are connected by thin lines (note: 2-7-12; 5-10-15-20, etc.--five steps apart in the developmental sequence). Most people have seen what is probably the most spectacular example of apparent spirals in *Compositae* heads, namely the cultivated sunflower, with its hundreds of geometrically arranged "seeds," the fruits of its ray and disc flowers. So the question is, do the ray flowers of *Compositae* heads always equal a Fibonacci number? One might think so, from the example I quoted earlier in Conquist's key to Solidago species (note "rays 8" versus "rays 13").



Figure 1. Cone of *Pinus flexilis* (drawing by Jeanne R. Janish) showing clockwise (A) and counter-clockwise (B) spirals (parastichies) of bracts.

Unfortunately, the answer is "no", ray numbers form a continuous series in most species, but with statistically significant "peaks" at or near Fibonacci numbers. One complicating factor is head size; as in humans, head size in *Compositae* varies continuously, not in discrete steps. Ray flowers occupy the outer rim of the receptacle. In Figure 2 there are 13 ray flowers, yet only eight of these (numbers 1, 4, 7, 2, 5, 8, 3, and 6) form the bases of clockwise parastichies. Space on the rim allows five other flowers (numbers 9, 12, 10, 13, and 11) to sneak to the edge and form rays. In smaller heads of this species, some of the latter might be forced onto the disc, and ray flower number would range downward to 12, 11, 10, etc. In a different species having larger heads, ray numbers might vary between 13 and 21, as there would be more space for them at the rim of the receptacle. The drawing of Figure 2 is taken from morphological studies by Prof. Konrad Bachmann, University of Amsterdam, who has shown that only the flowers of the outermost circle develop the structure of rays, whatever their numbers are in the "developmental spiral."

Playing the game of "love me, love me not" with daisy heads ends up being like a visit to a Reno gambling casino. You can play the odds and bet on Fibonacci numbers (which by the way are mostly "odd"), but don't be surprised if you lose to an even number now and then.

--Ken Chambers
Corvallis Chapter

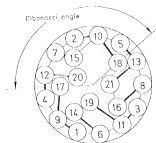


Figure 2. Diagram of a head of family *Compositae* containing 13 ray and 8 disc flowers. Their spiral arrangement is somewhat distorted due to crowding.

HYPCHOERIS RECTIFIED: JOY IN THE EYE OF THE BEHOLDER

"A Pesty Weed and A Botanical Joke" (Chambers 1991, *Bulletin of The Native Plant Society of Oregon*) quickly caught my interest. *Hypochoeris glabra* L. was the subject of my Masters thesis research (Baker 1977, Baker & O'Dowd 1982). This dandelion relative dominated my life for over two years and shaped my research career. What first attracted me to such a common annual was its seeds, called achenes. *Hypochoeris glabra* produces two distinctly different achenes on the same flower head or receptacle (Fig. 1). My research centered around the ecological implications of achene dimorphism. I wore one achene of each type securely sealed in a locket for good luck and inspiration. Clearly this plant was not "less than joyous" to me despite its name. Many plant species from diverse families, such as the *Brassicaceae*, *Chenopodiaceae* and *Asteraceae*, produce two or more different types of propagules. In several cases, each seed type has been shown to have different germination requirement and/or dispersal vectors, thus increasing the spectrum of conditions for seed dispersal and establishment. This ability is advantageous in variable environments. The roles of the two propagule types have often been identified as "colonizer" and "maintainer". The colonizer disperses more widely and has less specific germination requirements while the maintainer remains in the parental environment and has characteristics which confer a higher probability of establishment in that environment. Plants which produce more than one seed type seldom produce equal amounts of each type and the proportion of each type produced depends on drought stress, photoperiod and intraspecific competition. Germination differences between the two achene types of *H. glabra* are not well developed although the beaked achenes germinate over a slightly broader temperature range. The most distinctive differences between the two types are in modes of dispersal and relative number or each type produced per receptacle. The results of my research suggested that the beaked achene was most likely to colonize new habitats while the unbeaked achene remained in the vicinity where the parent plant had been successful. The proportion of each type produced per receptacle is dependent

on environmental conditions. When resources were limited a higher proportion of unbeaked achenes were produced and under more optimal conditions a higher amount of the beaked achenes, the colonizers, were produced. Under limited resources the type of achenes that are produced are the ones most likely to remain in the locality of proven favorability.

I was not aware of the meaning of *Hypochoeris* until I read Ken Chambers article but I have always been curious about the different (dimorphic) spellings I encountered. My research was done in California and so I use the spelling from Munz, "A California Flora", perhaps for the last time here.

REFERENCES:

- Baker G.A. 1977. The ecological implication of phenotypic achene dimorphism in an annual composite, *Hypochoeris glabra*. M.Sc. Thesis, San Diego State University.
Baker G.A. & D.J. O'Dowd 1982. Effect of parent plant density on the production of achene types in the annual *Hypochoeris glabra*. *Journal of Ecology* 70:201-215.

—Gail A. Baker, Emerald Chapter



Calypso bulbosa
Drawn by Esther McEvoy

NPSO RESEARCH GRANTS AT ALL-TIME HIGH

The Native Plant Society of Oregon is funding 5 \$400 field research grants this year with the help of a \$300 donation from the Mid-Columbia Chapter. 2 of the grants involve matching funds from the Plant Systematics and Conservation Biology Program of the Oregon Dept. of Agriculture.

Tom Kay (in a cooperative project involving Oregon State University and the Oregon Department of Agriculture) has received the Leighton Ho Memorial Field Botany Award to study *Lomatium bradshawii* (Parsley family). This species is State and Federally listed as Endangered and is endemic to prairie remnants in the Willamette Valley. A population of this species has been fenced by the Lane County Parks Department to keep cattle from grazing and trampling the site. Tom will be monitoring the population by means such as: tagging and mapping individual plants, measuring plant height, number of leaves, number of umbels, and number of fruits produced per plant. Since the flowers seem to be pollinated only by native solitary bees (which have also suffered great loss of habitat) knowledge of their potential role in *L. bradshawii* seed production is important to recovery efforts. Tom will conduct a standard bagging experiment to determine whether *L. bradshawii* is capable of producing seed in the absence of pollinators. He will also determine the diversity and abundance of potential pollinators.

Carolyn Wright and Dave Gross will do a survey of the Vinegar Hill-Indian Rock Scenic Area, located between the Elkhorn and Strawberry Mtns. in Grant County. This will increase our knowledge of the Blue Mountains flora, which is poorly understood. They will better define the range of some species which show gaps in their distribution and may extend the known range of others.

Daphne Stone will conduct a survey of the fruticose lichen *Usnea longissima* to define its preferred habitat in the Willamette Valley. This lichen is particularly sensitive to air pollution and is in extremely rare in Europe. Daphne's study will provide an excellent baseline for monitoring the response of this species as the human population in the Willamette Valley grows.

Funds contributed by the Mid-Columbia Chapter will enable Lisa Lantz to participate in a study of *Astragalus sterilis* (Pea family) that is being conducted by the Oregon Department of Agriculture with the help of further matching funds from the Bureau of Land Management. *A. sterilis* occurs in eastern Malheur County on dry bluffs and knolls that are nearly bare of other vegetation. The species may be limited in its ability to reproduce sexually. Lisa's study will focus on flower production and the pollination ecology of this rare plant that is a candidate for State and Federal Endangered species status. Mining activities now top the list of potential threats to this species.

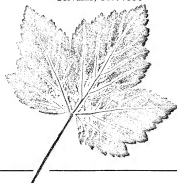
The other matching grant goes to Eric Peterson, who will assist the Oregon Department of Agriculture with monitoring and ecological studies of *Cordylanthus maritimus* ssp. *palustris* (Figwort family). *C. maritimus* is restricted to a few salt marshes along the coast, where draining, filling, and pollution are the major threats to its habitat.

— Dan Luoma
Corvallis Chapter

PLANT PUZZLE

Do you recognize this plant? The first person to give the correct scientific name will win a prize. The leaf illustration is from a woody plant native in Oregon.

Send your guess on a postcard to:
Peter Zika
4230 NW Clubhouse Pl. #1
Corvallis, OR 97330



A PERSONAL HISTORY OF THE NATIVE PLANT SOCIETY OF OREGON

The first meeting of the Native Plant Society of Oregon was held in Room B of the Multnomah County Library February 5th, 1961, at 8 pm. Our founder was Leonard Wiley, a short stocky man with a wealth of knowledge about native plants. His willingness to share this knowledge was well received by the 33 people who became charter members of the organization. Leonard chaired the meetings until increasing membership made it necessary to elect officers, have by-laws and levy two dollar dues. Leonard resisted this, hoping it would never become a political or social club. He wished it to be for all to enjoy and promote the knowledge of our wild plants. Leonard later published a book on the distribution and culture of many of our rare wildflowers. This was titled "Rare Wild Flowers of North America".

Reports that the early Society took no actions on the preservation of native plants are oversights. Incidences that I can remember include the following. The highway department notified the Society of a new road to be built in the Clackamas area, and asked that someone check out the two alternative routes. Dr. John Hammond and possibly Ed McDowell surveyed both routes, and finding no rare plants told the highway department to use their preferred route. Another incident concerned the Columbia River Gorge freeway. Anyone in the Native Plant Society was given permission to salvage plants along the route. Many plants went to the Portland Audubon Society Sanctuary and to the historic Howell-Bybee House.

In the spring of 1962 Leonard invited me to search for *Iris gormanii* (nowadays submerged in *Iris tenax*) in the Scoggins Creek area. This was fine except in those days married women did not roam around the woods alone with another man, married or not. I was to pick Leonard up at his home. A friend and member, Dorothy Campbell, agreed to go with me. When we drove up to the Wiley residence Leonard looked surprised and when he introduced us to his charming wife there seemed to be a glimpse of amusement in her smile. We found *Iris gormanii* on private property and got permission to collect anything we wanted. My starts grew prolifically and were shared widely.

When the Memorial Coliseum first opened, the Native Plant Society was invited to have a booth in conjunction with the Men's Garden Club. Gus Hafenbrach was to make all arrangements. On opening day Mrs. Hafenbrach frantically called me and said that Gus was in the hospital with a heart attack and had not made out a schedule for manning the booth, and would I take over. Laura Hollbeck rushed down to open the booth and hand out leaflets for our meeting. These were no doubt prepared by Gus. (It was Gus who sent out our first one-page notice.) All went well that day, and Gus recovered in time to be on duty at our booth.

Some years later the Men's Garden Club again invited us to have an entry in their "Gardens on Review" at the Expo Center on Columbia Blvd. in Portland. The theme for our display was a home wildflower garden. All plants were to be from our own gardens. The winding path led up to a pool, which was a large mirror highlighted by a spotlight. The barkdust for the garden was dumped in the corridor a long way from our space. A lady from Oregon City, whose name I do not remember but who will be called Janet, Dorothy Campbell and I were the only ones who showed up to work. Several of the men brought balled or potted plants in, set them down, looked our project over, gave approval and walked out without offering help. Hauling all that barkdust in buckets soon wore we three gals out. Janet found a large carton and a short piece of string to pull the carton. This made the work faster and lighter. The trees and shrubs formed the background and the flowers lined the path. Many of the members were on duty during the show, which was a great success.

Our group enjoyed many field trips from Saddle Mtn. on the coast to all the mountain meadows on St. Helens and the other surrounding mountains, as far as Central Oregon. One especially great trip was a three day trip down the coast from Cape Perpetua to Gold Beach, where a local group took us on an interesting trip in the Pistol River area. All our trips made wonderful memories for me. Respectfully submitted in fond remembrance of my fellow members.

--Christy Brindle Steck
High Desert Chapter

GIFTS THAT KEEP YOUR NEWSLETTERS COMING

The Native Plant Society of Oregon gratefully acknowledges the two gifts of computer equipment for the Membership Committee.

Ray and Peg Prag, Siskiyou Chapter members from Williams, donated an IBM PC-XT computer and display terminal.

Rhoda Love, Emerald Chapter member from Eugene, has donated an Epson printer.

We thank you for these contributions.

--Jan and Dave Dobak
Membership Committee

PROJECTS FOR RARE PLANT RESEARCH: PART II

This is the second in a two part list of plants which need taxonomic work. This list has been compiled by the Oregon Heritage Program in conjunction with the Plant Systematics and Conservation Biology Program in Oregon's Department of Agriculture. The plants are listed in relation to their rarity within the state. The name listed (in parenthesis) after the species is the person to contact before attempting work.

LIST 1: SPECIES THREATENED OR ENDANGERED THROUGHOUT THEIR RANGE

Arabis macdonaldiana--A. modesta (Linda Voro-
bik, U.C. Berkeley)

Arabis suffrutescens var. *horizontalis*
Fritillaria gentneri (Ed Guerrant, Berry Botanic
Garden)

Myosurus minimus spp. *apus* var. *sessiflorus*

Phacelia lutea var. *mackenzieorum*

Sedum radiatum spp. *depauperatum*

LIST 2: SPECIES THREATENED OR ENDANGERED IN OREGON BUT MORE COMMON OR STABLE ELSEWHERE

Allium campanulatum and related onions

Allium robinsonii

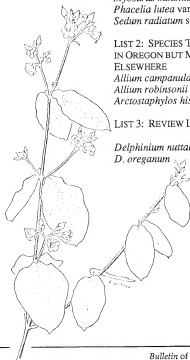
Arctostaphylos hispidula and related species

LIST 3: REVIEW LIST

Delphinium nuttallii

D. oregonum

--Jenny Dimling
Emerald Chapter



Apocynum androsaemifolium
Drawn by Julie Kierstead

BITS AND PIECES

—NEWS AND INFORMATION FROM ALL OVER

ROGUE RIVER N.F. AND PACIFIC YEW HARVEST

The recent discovery of the value of taxol, an extract of Pacific yew bark, in cancer treatment has transformed our native yew from the status of a weed tree to a forest superstar. Harvest of yew bark has become an economically attractive activity. The Rogue River National Forest has taken several steps connected with harvest of suddenly valuable Pacific yew. Initially the Forest began harvesting yew bark from existing timber sale areas, rescuing it from slash piles where previously it had been burned. Secondly they assembled specialists who drafted "working guidelines" to guide harvest of yew bark. Finally, due to high demand for yew bark, the Environmental Policy Act has been called into play, requiring "scoping" of the proposed harvesting, to determine the significance of the impacts on the environment and the species itself. The Rogue N.F. is asking for comments defining concerns over management of Pacific yew. They wish information on what we consider to be issues connected with yew harvest, and potential management alternatives.

Working with the mathematics of the yew supply brings up some interesting information. It has been widely quoted that it takes six yews one hundred year old to treat one cancer patient. Other statements hold that clinical tests will require three trees per patient. Initial estimates put the number of yews on Forest Service and BLM land in Western Oregon and Washington—the heart of quality yew range—at less than 30 million trees. Other guesstimates put total Forest Service land suitable for yew growth at ten to fifteen thousand square miles. Sound like a lot?

It isn't. If it is true that it takes six one-hundred year old yews to treat one case of cancer (out of 4 to 500,000 cases treatable *yearly* in the United States alone), then the currently existing trees cannot possibly supply the potential demand. Treating half a million cases yearly would eliminate all mature yews from BLM and Forest Service land in Western Oregon and Washington in ten years.

And taxol is likely to be found effective by current research projects in more types of cancers. World demand for it is going to be high, as the USA only has about one-twentieth of the world's population.

If the 10,000 Forest Service square miles of the best yew sites were given over *exclusively* to yew production (with no consideration given to timber production or the endangered species act) and the yews were able to be spaced 30 feet apart, then enough taxol could be produced to cover *current* US needs—after the 100 year lead-in time needed to produce six centenarian yews per patient. With only a ten year supply in hand, that leaves a ninety year gap without enough taxol.

The question is not if yew is endangered by taxol production demands. The answer to that is obvious. The question is whether synthetic production—in field or laboratory—will be possible so that we can have taxol available for needed cancer treatment. Research on this is ongoing. The very complex nature of the drug makes artificial reproduction difficult. Other research is going into extracting taxol from the needles and branches of the plant. Yew sprouts readily from pruning cuts, such as are made to harvest foliage. Peeling the bark destroys the tree. Field plantations of yew might provide large quantities of taxol. Statements that yew will not tolerate direct sunlight are inaccurate. Though it is true that yews are found in nature as shade tolerant understory trees, they survive in clearcuts if not cut, and yews growing in a full sun southwest exposure in rock in BLM's Table Rock Wilderness Area at 4500 ft. are certainly tolerating sun. Horticulturists know that almost all shade requiring plants will take full sun if given plenty of water and good cultural practices.

All these figures are very preliminary and could be inaccurate. And the idea of planting yews every 30 ft. to eventually produce 100 year old trees is unlikely to be carried out. The laws connected with wilderness areas and endangered species would have to be scrapped. Timber companies would lose access to all the timber on that land. Hopefully we will soon have a better way than mining our forests for yew.

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GUIDELINES FOR CONTRIBUTORS

The NPSO Bulletin is published monthly as a service to NPSO members and the public. Contributions of all types are welcome.

DEADLINE: Copy is due with the editor by the 10th of each month.

Text Format: Submissions can be in any form. Camera-ready copy should be in 3.334 in. wide columns up to 9.3 in. long, with 22 in column spacing. The Bulletin uses 12pt. Times font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article pasted inside their favorite field guide.

Computer output: The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modem. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are usable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article.

Credits: If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion.

Scientific Names: Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize* genus and species (underline if italic is not available).

Return of Originals: Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all. Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____ Chapter (if known) _____
 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
 City _____ State _____ Zip+4 _____
 Phone (Home) _____ (Work) _____ City _____ State _____ Zip _____

* **DUES** include monthly NPSO Bulletin. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.) \$3.00	() Bulletin Subscription only \$12.00
() Student.....		\$ 8.00	() Sustaining.....\$ 30.00
() Regular.....		12.00	() Patron.....100.00
() Family Membership.....		18.00	() Life Member.....500.00

* CONTRIBUTIONS:

Jean Davis Memorial Award Fund	\$ _____
Leighton Ho Memorial Award Fund	\$ _____
Rare and Endangered Plant Fund	\$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:

Jan Dobak, NPSO Membership Chair, 2584 NW Savier St., Portland OR 97210.

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Send change of address notices
and membership requests to:
Native Plant Society of Oregon
Jan Dobak, Membership Chair,
2584 NW Savier St.,
Portland, Oregon 97210

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NATIVE PLANT SOCIETY OF OREGON

Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

VOLUME 24 NUMBER 8

AUGUST 1991

ISSN 0884-599

OUR 30TH ANNIVERSARY YEAR

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. As we are often in the position of asking them to follow their rules and regulations for conservation of our natural resources, it's time for us to do the same. Each group using wilderness must be no larger than 12.

Blue Mountain

3 Aug., Sat.

FIELD TRIP. Learn about sedges, aspen forest and other moist site plants at Cougar Meadows Research Natural Area, Baker District, Wallowa-Whitman national Forest. For more information contact Paula Brooks at 523-7564.

10 Aug., Sat.

FIELD TRIP. Help design a nature trail at Anthony Lakes, Baker Ranger District, Wallowa-Whitman national Forest. We will be brainstorming ideas for an interpretive trail in the popular Anthony Lakes Basin. For more information contact Paula Brooks at 523-7564.

17 Aug., Sat.

FIELD TRIP. Hike the Hurricane Creek Trail, Eagle Cap Ranger District, Wallowa-Whitman National Forest with Marty Stein and Verna Slane. Call 426-4978 (day) or 426-3443 (eves) for details.

Corvallis

For information, call Esther McEvoy (754-0893).

Emerald

For information, call Jennie Dimling (343-3242).

High Desert

17 Aug., Sat.

FIELD TRIP: Our annual hike to view the spectacular display of alpine wildflowers and glacial geology on Broken Top. A 5 mile round-trip moderate to strenuous hike with a 1500 ft. elevation gain, mostly off-trail through the Three Sisters Wilderness. Number of hikers limited due to USFS restrictions in the Wilderness. Call leader to pre-register. For information, call trip leader Stu Garrett (389-6981).

Mid-Columbia

7 Aug., Wed.

MEETING. 7:30pm at Jerry Igo's estate. This will feature mid-summer flowering plants. Come early, 6:30pm, and join in a potluck dinner. Drive 5 miles up Dry Creek Road from Mosier, then look for signs. Call 478-3576 if you'd like to meet at Mosier and be escorted from there.

4 Sept., Wed.

MEETING. 7:30pm at the Mosier School. Dr. Stuart Garrett of the High Desert chapter in Bend will be our guest speaker. The topic will be Cyanide Heap Leach Mining.

North Coast

14 Aug., Thurs.

MEETING. 6pm at Cape Lookout Park Day Use Area for a potluck dinner. Each member should bring what he or she wants. For more information call Jim Winslow (842-4131).

FIELD TRIP --to be announced. For more information call Jim Winslow (842-4131).

Portland

10 Aug., Sat.

FIELD TRIP: Learn about ferns with Roger Yerke. He will show and describe ferns on the Horsetail-Oneonta loop trail (about 2.5 miles roundtrip). Leave 8:30am from the southwest corner of the 122nd and Sandy K-Mart lot. For more information call Roger Yerke (645-2505).

24 Aug., Sat.

FIELD TRIP: Lois Kemp will lead a trip to Heather Canyon. The elevation gain will be from 5100 to 5800 ft. The hike will start at Mount Hood Meadows. The length will be 2.5-3 miles. Leave from the K-Mart parking lot on 82nd & Milwaukee Expressway at 8am. A second meeting place will be the Mount Hood Meadows parking lot (Umbrella Falls end of the lot) at 9:15am. This will be a slow and easy hike to study plants of this area. For more information call Lois Kemp (760-4998).

Siskiyou

8 Aug., Thurs.

MEETING. 7:30pm in Room 171 of the Science Building at Southern Oregon State College.

17 Aug., Sat.

FIELD TRIP: Wayne Rolle, Rogue River National Forest Botanist, will lead a *Lupinus aridus* spp. *ashlandensis* count on Mt. Ashland. Barbara Williams, Klamath National Forest botanist, and some California Native Plant Society folks may join us up there. Leave from Ashland Bi-mart at 8am. Contact Wayne Rolle (776-4316) for more information.

17 Aug., Sat.

FIELD TRIP: Barbara Mumblo, Sensitive Plant Coordinator for the Applegate Ranger District, will lead a field trip to the Grayback Botanical Area. We'll start compiling a species list for the botanical area. This is a fairly strenuous hike on developed trails, elevations from 5,000 to 6,700 feet. Leave from Star Ranger Station (7 miles south of Ruch on Upper Applegate Road) at 8am. For more information call Barbara Mumblo (899-1812).

Umpqua Valley

8 Aug., Thurs.

MEETING. 7pm in Room 310, Douglas County Courthouse Auditorium, Roseburg. New Zealand Flora by Jim Carlson. For more information call Richard Sommer (673-3709).

INFORMAL FIELD TRIP every Tuesday with the Douglas County Museum Herbarium staff. Contact Mildred Thiele (673-5397) for more information.

Willamette Valley

For information, call Mary Anne Westfall (266-7967).

William Cusick

For information, contact Paula Brooks (523-7564).

BLACK HAWTHORN -- TWO VARIETIES OR TWO SPECIES?

With respect to our western Douglas' hawthorn or black hawthorn, *Crataegus douglasii*, Hitchcock and others have treated the 20-stamen and 10-stamen forms as varieties rather than species. Steven J. Brunfeld and Frederick D. Johnson of the Department of Forest Resources, College of Forestry, Wildlife and Range Sciences, University of Idaho recently published an article in Madroño, in which they proposed that these two varieties of black-fruited *Crataegus* be raised to species level: *Crataegus douglasii* with 10 stamens and *C. suksdorfii* with 20. (Their 1990 paper appeared in Madroño 37: 274-282.) Brunfeld and Johnson studied Idaho populations of both variants and concluded that differences in chromosome number, thorn length, flower size, leaf shape, flowering time and habitat preference were distinct enough to uphold raising the taxa to species level.

In the Idaho material examined by Brunfeld and Johnson, 20 stamen *C. suksdorfii* regularly was diploid with $2N = 34$, while 10 stamen *Crataegus douglasii* was polyploid with $2n = 68$. This pattern of variation with 20-stamen diploids and 10-stamen polyploids, is found in other sections of the genus *Crataegus* as well.

For example, in the hawthorn Series *Macracanthae*, *Crataegus calpodendron* is a 20-stamen diploid, while *C. macracantha* is a 10-stamen tetraploid. However, exceptions to this pattern occur. In the same series, *Crataegus succulenta* is polyploid but has flowers with 20 stamens and tiny anthers containing no pollen. In the hawthorn Series *Crus-galli*, only polyploids are

known; these include 10-stamen *C. crus-galli* and 20-stamen *C. tenax*. Of these, *Crataegus crus-galli* appears more frequently to be a pollen-fertile tetraploid, whereas *C. tenax* is more often triploid and less pollen-fertile. Within the closely related Series *Punctatae*, however, *Crataegus punctata* is a 20-stamen diploid. Thus, if one examines various groups, one finds that while 20-stamen hawthorns are often pollen-fertile diploids, this is not uniformly the case.

Chromosome and embryological studies carried out by us, in collaboration with S. Belaussoff and M. Muniyamma, suggest that the black-fruited hawthorns of the west and Great Lakes basin, may be just as complicated as the primarily eastern hawthorns referred to above. Also, recent field work by us in Klickitat County, Washington, suggests a good deal of overlap in flowering time, thorn length, and habitat. Our results suggest that it could be premature at present to recognize the stamen morphs of *Crataegus douglasii* as separate species since the cytological and ecological differences between them may not be as clearcut as Brunfeld and Johnson's results led them to believe. In the end, however, the level at which these forms are recognized (variety or species) may be largely a matter of personal preference, since in some areas, such as Idaho, differences in morphology and phenology appear to be pronounced.

--Rhoda M. Love, Eugene, Oregon
Timothy A. Dickinson, Royal Ontario Museum,
Toronto, Canada



Crataegus douglasii
Black hawthorn
From Northwest Trees
Drawn by Ramona P. Hammerly

HOW DO YOU SPELL *LYSICHITON*?

If the above spelling for a well-known Oregon plant genus looks unfamiliar, it is because it is correct, and the spelling used in our best current reference book--Hitchcock & Cronquist's "*Flora of the Pacific Northwest*"--is wrong. I noticed this minor but annoying problem only recently, when Rhoda Love asked "Which is correct, *Lysichiton* or *Lysichiton*?" A little research in the OSU Herbarium Library showed me that indeed, both spellings have been used for our common yellow skunk-cabbage, and "*Flora of the Pacific Northwest*" uses *Lysichiton*. The name is a compound of two Greek words, meaning "loose" and "cloak," in reference to the yellow spathe loosely surrounding the spike of flowers. The ending "-on" is the Greek form, whereas "-um" is the Latin version of the word. Many scientific plant names have a Greek form, however (e.g. *Rhododendron*), so this is not a reason for choosing *Lysichiton* over *Lysichiton*. From the following history of this name, you will understand why taxonomists have been so confused about its spelling.

The genus *Lysichiton* was authored by the Austrian botanist Heinrich W. Schott in 1857, in a journal named "Austrian Botanical Weekly." Writing in German about the Asiatic relative (*L. camtschaticense*) of our yellow skunk-cabbage, Schott says (in translation): "...I have believed that [this species] should be regarded as the type of a distinct genus, which I have attempted to make known through the name *Lysichiton*." In the very next paragraph, in italics, he gives a Latin description of the genus, beginning with the words "*Lysichiton Spatha membranacea in laminam ovatam cucullatam extensa*....". At first sight it seems that Schott is offering two alternative spellings ("on" ending versus "-um" ending), and later several influential botanical references--such as "*Index Kewensis*" (1895) and Adolph Engler's "*Das Pflanzenreich*" (1908)--used the "-um" spelling. Other botanists, including Alphonse deCandolle (1879), Willis Jepson (1923), and LeRoy Abrams (1923) chose the alternative "-on". In our West Coast floras today, we find "-um" used by Hitchcock & Cronquist, by Morton Peck (*Manual of the Higher Plants of Oregon*), and by Herbert Mason (*Flora of the Marshes of California*); however, the "-on" ending is used by Eric Hulten (*Flora of Alaska*), Munz & Keck (*A California Flora*), and Taylor & MacBryde (*Vascular Plants of British Columbia*). Confusion reigns, it would seem.

The definitive answer to the problem was provided by Donald Huttleston in 1955 (*Bull. Torrey Bot. Club* 82:134). Analyzing the three subsequent publications by Schott in which this genus is mentioned, he found that the spelling *Lysichiton* was consistently used--evidence that Schott himself considered the "-on" ending to be correct. In 1956, the taxonomists Harold St. John and Eric Hulten, who had earlier championed the "-um" spelling and had used it in naming our American species (*L. americanum*), reversed themselves and agreed with Huttleston that the "-on" version was the one that Schott had intended. Thus I feel that the matter was settled 35 years ago, and that we should no longer be stuck with the incorrect spelling "*Lysichiton*." After reading Schott's original paper, my own interpretation of what happened is that he wrote the intended spelling, *Lysichiton*, in his German-language preface remarks, but switched to the Latin "-um" form in the descriptive paragraph because it was to be written entirely in the Latin language. In modern practice, taxonomists would not make such a spelling change merely for the sake of consistency with a Latin description; we consider names even of Greek form to be Latin, because all scientific names are treated as Latin regardless of their derivation.

The accompanying illustration was published in 1908 by Kurt Krause in "*Das Pflanzenreich*". Krause mixed together the Asiatic (white-flowered) and North American (yellow-flowered) species, so the drawing could represent either one. Not until 1931 was the American species given the separate name, *Lysichiton americanum*.

--Ken Chambers,
Corvallis Chapter

BLM'S SALEM DISTRICT TRACKS NEW SHOOTING STAR

Salem District Bureau of Land Management botanists Larry Scofield, Clair Button and Patti Matusik are monitoring a possible new shooting star species growing along the Trask River east of Tillamook.

Dodecatheon austrofrigidum grows in bare rock fissures between the high and low water marks of the Trask. Its location is precarious; the river creates its habitat by depositing sediments in some places but also destroys it by covering the banks with debris during high water and scouring the thin soil from rock fissures during high water.

The seeds appear to need several months of cold to germinate. The yearly January through March floods may provide the cold needed for this germination. *Dodecatheon austrofrigidum* generally flowers from about April 15th to May 15th.

Through BLM's new Botany 2000 program, funding has been set aside to monitor the Trask River plants. Biometrics specialist Jim Alegria from BLM's Oregon State Office advised BLM field botanists to use randomly selected study

plots within an enclosed linear grid system for monitoring. Botany 2000 is a new BLM program which has promising criteria for the development of botanical studies, monitoring, and inventories. "Biodiversity" is an important feature of BLM planning for plant habitats under this program. The botanists hope to determine how river dynamics operate in connection with the life of the plant. Monitoring will involve geologic analysis including soils and river fluctuation, seed dispersal mechanisms, pollinators, and plant growth patterns.

The plant was first collected by George E. Lewis Jr. on the Trask River in 1979. Besides the four populations found along the Trask, an additional population is known to exist on Saddle Mountain in Clatsop County. A Saddle Mountain sample was collected by Dr. Helen Gilkey in 1942 and is stored at the Oregon State University Herbarium in Corvallis.

The only known site for this species outside of Northwestern Oregon is on Mount Colonel Bob in the southern Olympic Mountains where it was discovered by Ed Alverson in 1983. In 1978, BLM botanist Cathy Cooney sparked interest in exploring for this plant on BLM land by finding information about it while working in the Herbarium at Oregon State University. In 1981, BLM botanists Karla Buker and Larry Scofield found a population on BLM land near Peninsula County Park on the Trask River. Buker took a specimen to Dr. Chambers at the Herbarium in Corvallis. At that time the plant was thought to have a different taxonomic name and was just being considered as a new species. In 1989, Ed Guerrant of Berry Botanic Garden, Portland, collected seeds for the seed bank in Portland. While there, he found another population on BLM land.

Dr. Kenton L. Chambers, Professor Emeritus at Oregon State University, is investigating this species which he refers to as *Dodecatheon austrofrigidum* (Chambers ined.). Dr. Chambers will be publishing information about this species soon.

This spring, BLM also began doing a new study on *Erythronium elegans* in cooperation with the US Forest Service and Berry Botanic Garden in the Coast Range of the Salem BLM District and in the Siuslaw National Forest.

--Tricia Hogervorst-Rukke
BLM Salem District Public Affairs



Lysichiton camtschatcense
Asiatic skunk cabbage
From Das Pflanzenreich

MAPS OF BOTANICAL AREAS--SECOND PRINTING!

In the May NPSO *Bulletin*, a 512 page book of Oregon botanical area maps was offered at cost to NPSO members. Despite my forgetting to include an address for orders, the book soon sold out its first printing!

Meanwhile, *Sunset Magazine* and a large Willamette Valley weekly got wind of the book. However, botanical areas are inappropriate for recreation and I do not distribute the book to the general public.

The second printing is now back from the print shop with lots of new and improved maps, including an exciting new ACEC at Hecata Beach (thanks to Nancy Wogen of Eugene BLM) and the hotly contested Auger Creek RNA (Fremont National Forest). The price is still \$14.03 + \$2.47 shipping for NPSO members.

Oh...I almost forget. Send your order to PO Box 3429, Eugene, Or 97403.

--Tom Pringle
Emerald Chapter

PLANT PUZZLE

Sponsored by the Siskiyou Chapter

Do you recognize this plant? The first person to give the correct scientific name will win a prize. The leaf illustration is from a woody plant native in Oregon. Send your guess on a postcard to:

Peter Zika
4230 NW Clubhouse Pl. #1
Corvallis, OR 97330



Barbara Rupers of Salem solved last month's puzzle: *Ribes hudsonianum*, stinking currant or northern black currant.

COLUMBIA RIVER GORGE MANAGEMENT PLAN UPDATE

The Permanent Management Plan for the Columbia River Gorge National Scenic Area is now available in its final draft form. There is a 75 day review period during which comments will be accepted. Final adoption is set for Oct. 15th, 1991.

Copies of the plan are available from the Columbia River Gorge Commission (509-493-3323) and from the US Forest Service (503-386-2333). There will be three Open Houses given for reviewing maps and asking questions: six county Round Table Discussions with local government officials and Commission staff which interested citizens are encouraged to attend; and three Public Hearings for you to express comments and concerns about this final document.

This, the last draft resulting from a long development process, contains no restrictions on agricultural practices such as grazing in wetlands, riparian areas or sensitive natural areas. In comparison to earlier drafts, it reduces the acreage in Open Space designation, and lessens restrictions in regard to scenic resources, especially in respect to quarries.

Testimony at the open hearings, and letters to Columbia River Gorge Commission (509-493-3323), can still help shape the final form of this soon to be powerful document. The Friends of the Columbia Gorge is analyzing this final draft and will be soon issuing position papers on it. They may be reached at 319 SW Washington St., Suite 301, Portland, OR 97204 (503-241-3762).

Open Houses about the plan:

- July 30th, 4-9pm at Corbett Middle School, Crown Point Highway, Corbett.
- August 1st, 4-9pm at Wind River Middle School, Hot Springs Ave., Carson.
- August 8th, 4-9pm at Mid-Columbia Medical Center, 1700 E. 19th St., The Dalles.

Also:

--Skamania County Round Table, 9am August 1st at Wacoma Center, 902 Wasco Ave., Hood River.

Public Hearings will begin in September. Other meetings are being planned but times are not available at press time.

IN MEMORIAM

On July 1, 1991, Sallie Jacobsen passed away after a three-and-a-half week battle with an ailment that baffled a team of Portland doctors, despite hundreds of tests. Members of her family were by her side the whole time.

About 200 friends & colleagues attended a memorial service at Cape Meares State Park. The old growth forests with nesting bald eagles and seabird colonies in this park made it one of Sallie's favorites.

After receiving a degree from Humboldt State University, Sallie worked for Redwood National Park and Washington Park Zoo. For 8 years Sallie worked for Oregon State Parks at Tryon Creek, Champoeg, and as North Coast Regional Coordinator in Tillamook. She was a very active and effective member of the Native Plant Society of Oregon. She initiated and chaired the subcommittee on native plant issues. Sallie was a charter member of the North Coast Chapter and was Chapter President. Sallie served on the boards of Portland Audubon Society and the Environmental Educators Association of Oregon, assisted the Tillamook Highway Maintenance District in protecting the hairy-stemmed checker mallow, a sensitive species; volunteered on State Fish & Wildlife projects to monitor marbled murrelets and snowy plovers; and promoted the use of American dunegrass and eradication of European beachgrass.

Oregon's native plants, animals and ecosystems have lost a energetic champion. Sallie was a soul sister. I will miss her very much. A lot of people will miss Sallie Jacobson.

In remembrance of Sallie the Native Plant Issues Subcommittee is looking into creating a fund for receiving donations to encourage research on the establishment of native dune plant communities, specifically on eradication of European beach grass, restoration of native dune plant communities, or landscaping with native dune plants. This fund will soon be ready to accept donations in the memory of Sallie Jacobson.

--Margie Willis
North Coast Chapter

The members of the North Coast Chapter wishes to express their sorrow at the untimely passing of Sallie Lynn Jacobsen. Sallie passed away July 1st at Saint Vincent's Hospital in Portland following a sudden illness. She was 35.

Sallie was one of our most active and valuable members: serving as president and as a tireless advocate for our beautiful beaches, capes and flora. She was instrumental in conservation work concerning *Sidalcea hirtipes* (bluff mallow) and in halting roadside herbicide spraying. We are pleased to report that it seems to be thriving here. We often mused about renaming it *Sallie Sidalcea*. And now, when it blooms high in June and July, we will always think of her and her efforts to save it. She was also active in the eradication of European beachgrass and in the protection of our native beach flora. She was also an avid bird watcher.

Sallie was a regional planner for the Oregon State Parks and Recreation Division. She began her career for Oregon State Parks in 1983. Some of her most important work was educational. She taught at Tillamook County's Outdoor School, and tirelessly spoke to local groups about protecting our native flora.

For those of us who loved the things that she loved, such as Cape Meares, our seabirds, and our wild flowers, she was a kindred spirit. We hope that her untimely passing will inspire others to follow in her lead in environmental work. We will miss her very much.

Her family has requested that contributions be sent in her name to the Audubon Society or to the Environmental Education Association of Oregon. The North Coast Chapter is also actively pursuing setting up a memorial fund dedicated to her name and her interests.

--Submitted by the North Coast Chapter
of the Native Plant Society of Oregon.

BITS AND PIECES

---NEWS AND INFORMATION FROM ALL OVER

STEENS MOUNTAIN LEGISLATION

An national legislative battle is coming up over Steens Mountain. Conservationists have proposed what is known as the Oregon High Desert Protection Act. This comprehensive approach to protection of the Steens area envisions National Park oversight of the region, with some land as national park, but most in other designations. In response, the BLM, the federal agency currently in control of the land there, and extractive and grazing interests, are supporting establishing a National Conservation Area (NCA) designation for the Steens.

What's the difference? Under proposed National Park Service oversight, wilderness and ecological values, recreational uses and preservation of the integrity of the land and landscape for future generations will be important. Under continued BLM oversight with the NCA designation, we will see increased development in several areas. Continued degradation by grazing, off-road vehicles, and fragmentation of the wilderness by designating as wilderness lands unsuited to grazing or extractive uses (cyanide heap-leach mining, geothermal energy, etc.).

Those who can should visit this unique and biologically valuable area. A number of R&E plants reside here and both the scenery and geology are of great interest.

Support needs to be shown for The Oregon High Desert Protection Act. Letters to your congressmen are needed! For more information, contact the Oregon Natural Desert Association, at: PO Box 1005, Bend OR. 97709 (Bill Marlett 389-0613).

Representative Bob Smith introduced the NCA bill in the House, and at Rep. Smith's urging Sens. Bob Packwood and Mark Hatfield have sponsored an identical bill in the Senate. Rep. Smith is actively drumming up support for his bill. He will be holding field hearings on the bill in August or September at a as yet undisclosed location(s) in Eastern Oregon. The NPSO has an interest in this area, which contains some R&E plants, and needs to testify at these hearings.

SUCCESS AT SQUALLY POINT

Efforts by the Native Plant Society, Friends of the Columbia River Gorge, other conservationists, Indian tribes, and governmental agencies have resulted in a Forest Service decision to drop plans for a 1000 person a day windsurfing park at Squally Point. As Russ Jolley pointed out in his February article in the *Bulletin*, the result of this many people parking next to the Squally Point dunes would result in loss of the unique dunes plant community by trampling. The area also has high wildlife value and is one of the few dunes area open to the public.

The new Forest Service plans for the area will allow development of only limited public recreation, such as wildlife or botanical study.

EPA'S WETLANDS PROTECTION HOTLINE

The Environmental Protection Agency has set up a toll-free telephone service that is responsive to public interest, questions and requests for information about the values and functions of wetlands and options for their protection. The Hotline also acts as a central point of contact for the Wetlands Division within EPA's Office of Wetlands, Oceans and Watersheds (OWOW, one of the better governmental acronyms) to provide a wide range of verbal and published information or wetlands protection efforts involving EPA as well as other public and private programs.

The Hotline is staffed by specialists with a broad range of knowledge about regulatory, programmatic and policy issues. In addition the hotline maintains an extensive contact list to provide referrals to callers when necessary, as well as providing information on the availability of wetlands-related publications and documents.

The hotline now operates Monday through Friday (except Federal holidays) 9am to 5:30pm eastern time. The phone number is 1-800-832-7828.

--From *Kelsey*, Summer 1991
Newsletter of the Montana Native Plant Society

STATE OFFICERS

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GUIDELINES FOR CONTRIBUTORS

The NPSO Bulletin is published monthly as a service to NPSO members and the public. Contributions of all types are welcome.

DEADLINE COPY IS DUE WITH THE EDITOR BY THE 10th OF EACH MONTH.

Text Format: Submissions can be in any form. Camera-ready copy should be in 3,334 in. wide columns up to 9.3 in. long, with 22 in column spacing. The Bulletin uses 12pt. "Times" font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article pasted inside their favorite field guide.

Computer output: The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modem. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are useable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article.

Credits: If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion.

Scientific Names: Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize* genus and species (underline if italic is not available).

Return of Originals: Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all.

Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____ Chapter (if known) _____
 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
 City _____ State _____ Zip+4 _____
 Phone (Home) _____ (Work) _____ City _____ State _____ Zip _____

* **DUES** include monthly NPSO Bulletin. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() Bulletin Subscription only	\$12.00
() Student			\$ 8.00	() Sustaining	\$ 30.00
() Regular			12.00	() Patron	100.00
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* CONTRIBUTIONS:

Jean Davis Memorial Award Fund	\$ _____
Leighton Ho Memorial Award Fund	\$ _____
Rare and Endangered Plant Fund	\$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:

Jan Dobak, NPSO Membership Chair, 2584 NW Savier St., Portland OR 97210.

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*Send change of address notices
and membership requests to:*
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Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

VOLUME 24 NUMBER 9

SEPTEMBER 1991

ISSN 0834-599

OUR 30TH ANNIVERSARY YEAR

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. Each group using wilderness must be no larger than 12.



Recycled Paper

Blue Mountain

For information, call Jerry Baker (566-2244).

Corvallis

28 Sept., Sat.

WORKSHOP: 10am to 12 Noon. Seed and cutting propagation of native plants. If interested, call Esther McEvoy (754-0893) for more details.

Emerald

9 Sept., Mon.

MEETING: 7:30 pm in the Library, Kennedy Middle School, 2200 Bailey Hill Road, Eugene. Ed Alverson, Eugene Public Works Dept., and TNC ecologist, will show slides and speak on: "Native Ecosystems of the Willamette Valley: Inventory, Protection and Restoration." For more information, call Jenny Dimling, 343-3242.

16 Oct., Wed.

MEETING: 7:30 pm in the Library, Kennedy Middle School, 2200 Bailey Hill Road, Eugene. Rhoda Love will show slides and speak on: "What's Going on with the Western Hawthorns? Adventures in Mt. St. Helens Country." For more information, call Jenny Dimling, 343-3242. Note: This meeting has been moved from Monday to Wednesday because of the Columbus Day Holiday.

13 Nov., Wed.

MEETING: 7:30 pm in the Library, Kennedy Middle School, 2200 Bailey Hill Road, Eugene. Peter Zika will show slides and speak on: "Changes in the Alpine Flora of New England in the last 100 years." For more information, call Jenny Dimling, 343-3242. Note: This meeting has been moved from Monday to Wednesday because of the Veteran's Day Holiday.

9 Dec., Mon.

HOLIDAY SOCIAL: 7:30 pm at Rhoda Love's house, 393 PalVue Drive, Eugene. (Take South Willamette St., then Crest Drive, turn left a block above Wayne Morse Ranch Park.) Holiday Party with snack potluck and potpourri of members' slides. Bring a snack and 10-15 of your favorite slides of 1991. For more information, call Rhoda Love at 345-6241.

High Desert

For information, call Bill Hopkins (388-7434).

Mid-Columbia

4 Sept., Wed.

MEETING. 7:30pm at the Mosier School. Dr. Stuart Garrett of the High Desert Chapter in Bend will be our guest speaker. The topic will be "Cyanide Heap-Leach Mining".

2 Oct., Wed.

MEETING. 7:30pm at the Mosier School. Pat Wood, local proprietor of Woods Native Plants, will give his "One Man's Approach to Native Plant Propagation" as the featured program.

North Coast

MEETING. A new meeting time and place will be announced. For more information call Jim Winslow (842-4131).

FIELD TRIP --to be announced.

Portland

10 Sept., Tue.

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. A talk on "Monocots of Oregon" by Don and Priscilla Eastman.

21 Sept., Sat.

FIELD TRIP to Mt. Hood to look at alpine plants. Leave 8am from the SW corner of the 122nd and Sandy K-Mart lot, or 10:30am at Cloud Cap. Leader: Jerry Igo of the Mid-Columbia Chapter (no telephone).

Siskiyou

12 Sept., Thurs.

MEETING. The topic will be "A Botanical Potluck". Members are invited to bring five slides of plants, places, or botanical activities. 7:30pm in Rm. 171 of the Southern Oregon State College Science Building. For information, call David Kennedy (535-6383).

14 Sept., Sat.

FIELD TRIP. Anita Seda will lead a hike to the high elevation Bigelow Lake in the Illinois valley Ranger District's Siskiyou Mountains. Meet at Medford Food 4 Less at 8am, Grants Pass BiMart at 8:30am, or Illinois Valley Ranger Station at 9:30am. For information call Anita Seda (592-2765).

Umpqua Valley

12 Sept., Thurs.

MEETING. Examine the flora at Eastwood School nature trail. Bring your own picnic supper to Peaceful Point outdoor classroom (a short walk to the eating benches). Meet at 6pm at Eastwood School trailhead which is east n Douglas St. past the Court House, Roseburg. Coordinator is Mary Carlson (672-3479).

15 Oct., Tues.

MEETING. Plant communities and soil types on different landforms and parent materials in Douglas County by David Turcotte of the USDA Soil Conservation Service. 7pm in the Douglas County Court house, Roseburg.

19 Oct., Sat.

FIELD TRIP. Carpool from the BLM parking lot, 777 Garden Valley Rd., Roseburg at 8am. Plant communities and soil types on different landforms and parent materials (in Douglas County's geologic "Bermuda Triangle") lead by David Turcotte of the USDA Soil Conservation Service.

Willamette Valley

16 Sept., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. Kathy Conley will give a talk on "Fire Ecology of the Willamette Valley".

William Cusick

For information, contact Paula Brooks (523-7564).

EMERALD CHAPTER OFFICERS FOR 1991 ARE:

President: Jennifer Dimling
Vice-President and Program Chair: Rhoda Love
Secretary and R & E Chair: Tom Pringle
Treasurer: Evelyn Everett
Conservation Co-Chairs: Warren Pavlat and Rhoda Love

WELCOMING OUR NEW MEMBERS....

We have 49 new members to report!

Blue Mountain Chapter	Kelly E. Cahill Katherine Skirvin Joan Soderstrom Tom Winters	Mid-Columbia Chapter	Barbara Bailey
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WHAT'S GOING ON WITH WESTERN HAWTHORNS?

THE BLACK-FRUITED HAWTHORNS. Our native western hawthorn -- *Crataegus douglasii*, with two varieties -- is interesting because of its black fruit, a characteristic not known in other North American hawthorns. At present, we can only speculate about the origin of this black-fruited species, although it may be significant that black-fruited hawthorns are also known from Asia. Now, due to recent research by my colleagues Dickinson, Muniyamma and Belaoussoff of Toronto, Canada, and by Steven J. Brunsfeld and Frederick D. Johnson of the University of Idaho, the western black-fruited hawthorns are becoming even more interesting to students of plant reproduction. Recent discoveries reveal that cytologically, geographically and ecologically this group is more complex than previously believed. In a brief note in the August *Bulletin*, I brought readers up to date with regard to the Brunsfeld and Johnson proposal to raise the varieties of *Crataegus douglasii* to species level. Here I would like to describe some other recent hawthorn work and thank the many people who have helped me and my co-workers with this research.

HISTORICAL BACKGROUND. David Douglas was the first European to collect the black-fruited *Crataegus*. He encountered the plant in the Colville-Spokane River country of northeast Washington State in 1826. Its flowers had 10 stamens. The hawthorn was named *Crataegus douglasii* in his honor, by Lindley in 1830. A half-century later, Wilhelm Nikolaus Suedorf, the German-born pioneer botanist of Bingen, Washington, collected various 10- and 20-stamen, black-fruited hawthorns in Klickitat County, Washington. Suedorf sent specimens to C. S. Sargent who named the 20-stamen form a new variety *Crataegus douglasii* var. *suedorfii* in 1907. [Hereinafter, 10-stamen *Crataegus douglasii* var. *douglasii* will be referred to as CDD, and 20-stamen *C. douglasii* var. *suedorfii* as CDS.]

CHROMOSOME NUMBERS. Students of *Crataegus* taxonomy have suspected for some time that there may be different chromosome numbers associated with the different stamen numbers in hawthorn species and varieties. As cytological work has been done, this assumption has proven to be true in some, but not all, hawthorn groups. When I worked on 20-stamen CDS in the Willamette Valley for my PhD, I concluded that the plants

behaved like outcrossing diploids; however, when I attempted to count chromosomes, I was unable to get usable preparations. At that time I could only report that one published count on material from British Columbia's Queen Charlotte Islands had indicated that there CDS was indeed a diploid with $2n = 34$. Workers have recently been able to count chromosomes of 10-stamen CDD from the Great Lakes area and found that some of these are tetraploids with $2n = 68$.

GEOGRAPHIC DISTRIBUTION. Based on early herbarium records, it has been assumed that 20-stamen CDS was found primarily west of the Cascades while 10-stamen CDD was found primarily east of the Cascades and disjunctly in the Great Lakes Area. And, it was known from Suedorf's collections, that CDS and CDD came together in the Columbia Gorge. Last year, Brunsfeld and Johnson surprised many *Crataegus* scholars by reporting that CDS and CDD were sympatric (found together) in some places in Idaho and Montana. They got diploid counts of $2n = 34$ for 20-stamen CDS, and tetraploid counts of $2n = 68$ for 10-stamen CDD. They found enough other distinctions between CDS and CDD in Idaho to propose raising the two taxa to species level.

RECENT WORK. Even before we heard about Brunsfeld and Johnson's findings, Timothy Dickinson and I had decided that we needed chromosome counts and cytological information about *Crataegus douglasii* from many more sites, both west and east of the Cascades. While Dickinson's Toronto group concentrated on studying CDD from the Great Lakes area and perfecting cytological techniques, I collected hawthorn buds, flowers, fruits and leafy branches from the Willamette Valley and nearby Elk Meadows and Patterson Prairie, from Spencer Meadow in the Gifford Pinchot National Forest in Washington and from the Columbia Gorge, the Laurel area, Pullman, and other sites. Some of this material has begun to yield rather startling results which will be published soon by Dickinson, Muniyamma, Belaoussoff and myself. Among other things, what we are now finding is that some 20-stamen CDS from Oregon and Washington are polyploids!

SUKSDORF'S FARM. As long-time readers of the *Bulletin* know, I have for several years been hoping to find the location of what Wilhelm N. Suksdorf called in his notes his "farm in Falcon Valley," where his WSU herbarium sheets show he collected various 10-stamen and 20-stamen hawthorns. I figured that the two varieties must have been sympatric there, at least in the late 1800s and early 1900s. And a region of sympatry could possibly be a place where significant evolutionary events took place. A great many people (some of those thanked below) helped me pinpoint the location of Suksdorf's "farm" and, I am excited to report, that this June I stood where, approximately a century ago, Suksdorf built a small shack and where he collected summer hay and hawthorns. The farm was located near Laurel, Washington, on what is now Kreps Lane just west of the OK Ranch. In fact, I had my picture taken beside the white section post which marks the northeast corner of what local residents still call the "Suksdorf 80" (Suksdorf's 80 acres). Even more exciting was the fact that no sooner did Timothy and I get close to the Suksdorf farm site than we began to find very interesting hawthorns!

BINGO! We were driving north of White Salmon on the road from BZ Corner to Glenwood when I remarked, "It's starting to look hawthorny here." Barely were the words out of my mouth, than we spotted white-flowered shrubs in a cow pasture. Timothy said, "Bingo," and stopped the car. I jumped out, slipped under the fence, and shouted, "Double bingo!" We had found 10-stamen and 20-stamen hawthorns, in bloom, side by side.

BULL. I want to testify here, that I hardly ever trespass, but there was no farm house in sight at which to ask permission, and after all these years of searching, the temptation was just too great not to go in for a peek. I got my comeuppance, however, as there was a very large black bull in the field who, as I was photographing the trees, began to roar and paw the ground! I started switching into my flight or tree-climbing mode, when, luckily for me, the big guy rounded up his harem of cows and took them away to another part of the pasture. We took photographs, and collected buds and vouchers. This material will be studied carefully this fall and winter and a paper reporting our recent findings should appear soon.

THANKS. I want to express my sincere thanks to the following, many of whom helped me locate the Suksdorf farm. Other folks here have suggested other hawthorn sites and have helped with collecting. Russ Holmes, Mike and Nancy Fahey, Stan and Glen Love, Paula Brooks, Chris Topik, Danna Lytjen, Nick Otting, Alan Dickman, Harold Cole, Chris Krueger, Bill and Mary Giersch, Keith Chamberlain, Russ Jolley, William Weber, Joy Mastrogioseppe, Amy Jean Gilmartin, Bob and Joanna L. Frisque, Ed Alverson, Frank Lang, Art Kruckeberg, and Darvel Lloyd. Many thanks to all of you!

--Rhoda Love
Emerald Chapter



Crataegus douglasii Illustration by Jeanne R Janish
From 'Flora of the Pacific Northwest',
University of Washington Press

LEGISLATIVE NOTES

In retrospect, Oregon's 1991 Legislative session succeeded in passing strong laws to protect Oregon's environment. Though Republicans controlled the House, the Republican caucus voted for many environmental issues. Environmental laws that passed include regulations on gold mining, reduction of field burning smoke, further regulation of forestry practices, and legislation to encourage recycling. Many bills did not finish as strong as they had begun but are definitely a step forward.

The budget of the Plant Conservation Biology Program in the Oregon Department of Agriculture remained similar to its past level. Many program budgets were cut and some programs were axed in the Department. Even though we would like to see an increase in the program's budget, the fiscal climate of the 1991 session made it impossible to request more funding. Still we must not lose hope for a future increase in this vital program for our rare plants. All the letters written in support of the Plant Conservation Biology Program did help by showing that we actively support the program and that we want more funding! Thank you for taking time to write.

Passage of HB 2244 was definitely a step forward in regulating the cyanide heap leach mining process in the State of Oregon. It is described as "one of the toughest and most protective heap leach mining laws in the country" by Sen. Dick Springer (D-Portland). Many provisions incorporated into this new law allow the public to comment upon and to be a part of the permit process. In the past the public was not included in the permit process. This law requires companies to use the best available technology to comply with environmental standards. Certification is required from the permittee by the State Department of Fish and Wildlife and the Department of Agriculture that a self-sustaining ecosystem, comparable to undamaged ecosystems in the area, has been established in reclamation. Backfilling or partial backfilling is to be determined on a case by case basis. Though this is a "tough" new law the groups that worked on the bill never reached consensus on several issues which consequently were not included in the bill. New regulations related to HB 2244 will be adopted over the next few months. Thank you for letters in support of strong regulation of cyanide heap leach mining.

The Oregon Resource Conservation Trust Fund was one of the issues that was not acted upon by this legislature. Yet one bill did pass the legislature that may have some future benefit for wildlife and parks in Oregon. Senate Joint Memorial 13 sponsored by Senate President John Kitzhaber, Sen. Paul Phillips, Rep. Bob Shiprack refers to the voters an Oregon Constitutional amendment. The amendment would allow \$250 million in bonding authority to acquire, develop, and maintain fish and wildlife habitat and park and recreation sites. I will get more details on this amendment.

Our Federal Congress is currently debating reform of the General Mining Law of 1872. The Mineral Exploration and Development Act of 1991 (HR 918) was introduced by Nick Rahall of West Virginia in February. This would have new guidelines for mineral exploration and development; establish rental fees for mining use of public lands; set strong requirements to check on claims to ensure they are being used only for mining activities; and set guidelines for environmental protection and reclamation. In June, Peter Defazio introduced the Mining Reform Act of 1991 (HR 2416). This bill is similar to HR 918 but would also include a 12.5% royalty on gross income from production. The income would fund the Hardrock Mining Impact Assistance Trust Fund to help communities mitigate the impacts associated with hardrock mining. One other proposal is HR 2635, the Mining Policy Review Commission Act of 1991, introduced by Congressman Ron Marlenee (R-MT). This bill would establish a commission to study current laws relating to location and disposition of minerals on public lands.

--Esther McEvoy
Corvallis Chapter



Linnaea borealis Twinflower
By Herm Fitz

BOOK REVIEW: THE ALGORITHMIC BEAUTY OF PLANTS

The Algorithmic beauty of Plants,
by Przemyslaw Prusinkiewicz
and Aristid Lindenmayer
New York: Springer-Verlag, 1990
228 pages; 150 illustrations, 48 in color

For centuries, plants have attracted the attention not only of botanists, but of mathematicians as well. Conspicuous geometric features such as the bilateral symmetry of leaves, the rotational symmetry of flowers, and the helical arrangements of scales have been studied extensively. This book explores two other factors that organize plant structures and contribute to their beauty: developmental algorithms and self-similarity.

Self-similarity is a result of developmental processes. An example is a compound leaf which has lobes or leaflets which have the same shape as the whole leaf at an early stage of development.

Developmental processes have been captured using the formalism of Lindenmayer systems, which have become developed enough to allow computer graphics to be used for visualization of development of plant structures.

Individual chapters of the book describe the mathematical modeling techniques and their applications to models of entire plants, plant organs, and cellular arrangements.

For the scholar working in this area of research, the book is valuable as a summary of the development of the science and art to date. For the botanist without a strong background in mathematics, it is interesting for the insight it provides into the orderliness inherent in plant development and morphology. For the amateur, it is a source of amazement. For all, the computer generated graphics, both black and white and color, are stunning in their beauty and naturalness.

Not recommended as a must for every botanical bookshelf, nor necessarily appropriate as a Christmas stocking stuffer for an unwary friend, this book is definitely worth asking for a the nearest scholarly library and spending a few thought-provoking hours browsing through.

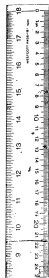
--Dave Dobak
Portland Chapter

USNEA STUDY

I was awarded an NPSO grant to study the uncommon fruticose lichen *Usnea longissima*. This lichen is very sensitive to air pollution and because of this it has become extinct in much of Europe. I am locating sites where it exists in Oregon and describing its habitat, so that in the future researchers will have an idea where to search for further populations.

The name *longissima* means 'the longest', and is appropriate. The lichen looks like a very long piece of old-fashioned tinsel. It has one central strand with many approximately 2 cm long side branches (see picture). It tends to dominate a whole tree, with thalli as long as 8 meters draped from branch to branch. The only other such dramatic lichen in our area is the fishnet lichen, *Ramalina menziesii*, which is massed over the branches in spreading nets instead of the long, single strands of *Usnea longissima*. If any readers know of locations of this unusual looking lichen, please contact me. Thanks!

--Daphne Stone
30567 Le Bleu Rd.
Eugene, OR 97405
503-344-3274



Usnea longissima

**FIELD TRIP REPORT FOR
THE HIGH DESERT CHAPTER'S FIELDTRIP TO
HATFIELD'S HIGH DESERT RANCH JUNE 9, 1991
AND EASTSIDE CONSERVATION REPORT**

It was one of those amazing Central Oregon mornings. My first cup of coffee was enjoyed on the back deck with an astounding view of the Three Sisters—cloaked in brilliant white against a sky that can only be described as desert-blue. It was a good day for a field trip. thirty-one others apparently agreed with me and showed up to travel an hour east of Bend to visit a ranching couple who feel confident they have found a better way of running cattle on the high desert.

The fieldtrippers were the usual NPSO sorts: botanists, schoolteachers, a couple of librarians, a retired chemist, a psychotherapist, some folks just moved up from California last year, a couple of ex-ranchers, at least one lawyer and a doctor. We carpooled and headed east into Oregon's shrub steppe. we were rewarded with spectacular views of the geologic wonders east of Bend: the looming hulk of Oregon's largest dormant volcano--Newberry; the Badlands Volcano--soon to be Bend's own backyard wilderness; the dried lakebed of ancient Lake Millican; the extinct John Day era volcano Pine Mountain. We were fortunate to see a number of antelope; one thrilled us by racing to a nearby hilltop, leaving us in his dust.

The Hatfields has seen us coming (their vistas are grand) and grins and outstretched hands greeted us. Doc, with his white cowboy hat and tanned demeanor fitted the pictures in our minds' eyes. Connie's warm welcome and intense interest in and knowledge about her land reveals her as a strong partner in this venture. Transplanted from Montana 16 years ago, their ranch has been pieced together from early 20th century homesteads that went broke. The Hatfields run several hundred head of cattle on over 25,000 acres when you include their deceded land, other private land they lease, and their BLM allotment of 5,000 acres.

We spent the first hour getting to know one another and determining what everyone was expecting of the visit. Doc and Connie spoke eloquently of the concern for sustainable ranching. They wish to replenish the water on the ranch, restore their riparian areas, reduce the invasion of woody species (sagebrush--*Artemisia tridentata* and western juniper--*Juniperus occidentalis*), reintroduce fire into their ecosystem, and enhance the native vege-

tation. Plus they need to support themselves while doing it. Doc and Connie sell a significant portion of their beef (which is produced without hormones or antibiotics) to Japan. They get a regular check from the Bank of Tokyo!

Our first stop gave us an overview of the ranch and a close look at an old hayfield that used to provide the homesteaders with ryegrass (*Elymus cinereus*) hay but which the Hatfields have replanted to crested wheat. Doc was able to point out wheatgrass seedlings which were regenerating themselves--not a common phenomenon in this area. Doc feels that the native grasses, Idaho fescue (*Festuca idahoensis*) and bluebunch wheatgrass (*Agropyron spicata*) are better forage in the long run, but for now he needs to rehabilitate this site. In fact, in some areas we saw fescue slowly invading the crested wheat. I wish we could have seen lowlands filled with native basin wildrye (*Elymus cinereus*). Maybe in a few years.

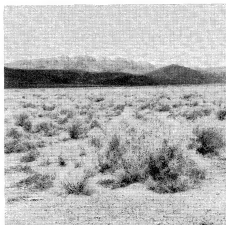
The next stop was a fascinating mix of Idaho fescue/big sage, which had been partitioned and either {1} not grazed for 30 years and not burned, {2} grazed or {3} grazed and burned. The ungrazed (for the last 30 years) area showed large clumps of shaggy fescue with a substantial cover of sage and a fair amount of bare soil. The grazed area had the same species with more Sandberg's bluegrass (*Poa sandbergii*) but smaller, more vigorous fescue. The burn had eliminated almost all woody plants, both sage and juniper. The grasses were coming back nicely and providing a lot of forage. There was less bare ground in the grazed pastures. We were able to find some antelope bitterbrush (*Purshia tridentata*) resprouting. We saw only small amounts of exotic cheatgrass (*Bromus tectorum*).

Finally, we went to the high spot on the ranch and saw how the Hatfield's intensively graze their multiple pastures during the growing season for a short period of time and then move on to allow rest and recovery. They are believers in the principles of the Alan Savory method of Holistic Resource Management and have attended his school. They assured us that such grazing has been their practice for many years and the grasses have benefited. Doc and Connie wanted to be sure that our

group understood the amount of land that they felt it took to properly run a ranch and keep management options open. They see the increase in smaller "hobby ranches" as a double-barrelled ecological and population threat.

On a scabland site high above the picturesque ranch buildings we dug one of the numerous bitterroot plants (*Lewisia rediviva*) to allow everyone to see how easily the root cortex slips off this time of year and what a pleasant flavor the root has. No wonder it was important in the Native American diet. After iced tea and Western hospitality on Doc and Connie's back porch, we headed home. Each of us carried home a little different view of the world.

It was an important experience. We live in the age of "polarization politics". Grazing issues will become more prominent over the next few years and the battle lines are being drawn for what may be "The Mother of all Battles". With the cry of "Cow Free by '93", some conservation groups are calling for the removal of all cattle from all public lands. This has already happened at the Hart Mountain Antelope Refuge. Conversely, many ranchers are reluctant to support any change in traditional practices. Others, such as the Hatfields and a group of neighboring ranchers, are looking at the world differently and trying new things. I think they deserve our support.



Steens Mountain and the Alvord Desert
Photo by Stu Garrett

The NPSO does not have a grazing policy. There has been some discussion of developing one. I'd like to hear from NPSO members on this issue. I think we had good member input on the Cyanide Heap Leach Mining Position Statement and developed a successful one which the board readily adopted. I'd like us to try the same process with grazing. Let's get the discussion started.

NPSO is an advocate for our native vegetation. We should not tolerate loss of natural diversity, depletion of rare species, or damage to riparian systems and uplands. In Western Oregon we have supported ecologically appropriate management of our forests, but we have not opposed all timber harvest. Can we take a similar approach on the Eastside? There are some places where there should not be any grazing. However, there are areas where properly managed grazing shouldn't destroy the ecosystem. Let me know what you think.

Stu Garrett
Conservation Co-Chair, Eastside
21663 Paloma Dr.
Bend, OR 97701

PLANT PUZZLE

Sponsored by the Siskiyou Chapter

Do you recognize this plant? The first person to give the correct scientific name will win a prize. The leaf illustration is from a woody plant native in Oregon. Send your guess on a postcard to:

Peter Zika
4230 NW Clubhouse Pl. #1
Corvallis, OR 97330



Last month's puzzle, shown above, has not yet been correctly identified.

BITS AND PIECES

--NEWS AND INFORMATION FROM ALL OVER

BIG SPRINGS BOMBING RANGE ISSUE

A time when the military is closing bases and downsizing, news comes that the military is trying to control of vast areas of the West, including parts of Oregon, for use as bombing ranges and what is called "Military Operating Areas" (MOA).

The Air Force has plans for what they euphemistically call Big Springs Training Range, a 230 square mile bombing range in southwestern Idaho. 41.5% of this area is currently Wilderness Study Areas, more is in Areas of Critical Environmental Concern, and 98% of the land is presently held by the BLM. In a bizarre twist, the governor of Idaho is asking the BLM to deed the land to the State of Idaho, who would in turn lease it to the Air Force for the bombing range. This would negate protections of the Wilderness Act. The proposed range is 50 miles west of Saylor Creek Bombing Range, proposed by the Air Force two years ago but stopped by angry public opinion.

Proposed to surround this bombing range is a 140 by 100 mile Military Operating Area, which would take in a generous chunk of Southeast Oregon. The entire area would be subjected to routine sonic booms. Though this land is not to be purchased by the Air Force, private and commercial air traffic will see a variety of limits on passage over this area. These controls can range from banning of flight at certain altitudes to outright blocking of civilian overflights.

At the same time, due to concern over sonic booms and other hazards of military supersonic flights, the military is proposing to limit their activity in the air to altitudes over 10,000 ft. above ground level. However, the record on military pilot's following such guidelines is very poor. A few years ago in the mountains of Eastern Oregon an elderly couple was seriously injured when thrown from their horses when military jets suddenly topped the ridge just a few feet off the ground. According to high desert activists in Idaho and Oregon, low level (meaning sometimes as low as a few tens of feet) military flights within the canyons of their areas.

The Owyhee country covered by this proposed expansion of military operations is a rich but underexplored botanical area. It is home to about half the California bighorn sheep in existence, and a major source for animals to restock areas where it has been exterminated. The area has many river otters, hunted out elsewhere. A variety of raptors inhabit parts of the area. Whitewater rafting, hunting, archaeological sites, hot springs and biological diversity are among the secrets of this area.

Although discussions about this proposal have been taking place behind the scenes for a year, conservation groups were not notified until the Friday before a Monday scoping hearing on the subject. Local conservationists are crying foul. A rush to raise potential issues and problems with the proposal during the still ongoing scoping process is taking place. Issues not raised now may not be allowed in later. Letters to the powers that be are very important.

A request to the Air Force Director of Environmental Programs for the Draft Environmental Impact Statement, for scoping hearings at several convenient locations after reasonable public notice, and to be on the mailing list concerning the Big Springs Training Range, can be addressed to:

Lt. Col. Tom Bartol
Director of Environmental Programs
AFRCE-BMS/DEV
Building 520, Room 131
Norton AFB, CA 92409-6884
Telefax: 714-382-7762

The FAA must approve creation of military airspace. A letter requesting that any changes to the Owyhee MOA be done through a full environmental impact statement, including public hearings in Boise and Portland, can be addressed to:

Federal Aviation Agency
Northwest Mountain Region
17900 Pacific Hwy. S.
Seattle, Wa 98168-0966

For more information, (there is much more) contact:
Committee for Idaho's High Desert
PO Box 2863
Boise ID 83701

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The NPSO Bulletin is published monthly as a service to NPSO members and the public. Contributions of all types are welcome.

DEADLINE COPY is due with the editor by the 10th of each month.

Text Format: Submissions can be in any form. Camera-ready copy should be in 3,334 in. wide columns up to 9.3 in. long, with 22 in column spacing. The Bulletin uses 12pt. "Times" font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article pasted inside their favorite field guide.

Computer output: The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modem. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are useable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article. **Credits:** If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion.

Scientific Names: Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize* genus and species (underline if italic is not available).

Return of Originals: Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all.

Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

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Jan Dobak, NPSO Membership Chair, 2584 NW Savier St., Portland OR 97210.

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Bulletin of the

NATIVE PLANT SOCIETY OF OREGON

Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

VOLUME 24 NUMBER 10

OCTOBER 1991

ISSN 0884-599

OUR 30TH ANNIVERSARY YEAR

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. Each group using wilderness must be no larger than 12.

Blue Mountain

For information, call Jerry Baker (566-2244).

Corvallis

21 Oct., Mon.

MEETING. 7:30pm in Herbarium Library (Rm. 4083) Cordley Hall, OSU. John Christy of the Nature Conservancy will talk on "Lake Labish and Other Ghost Stories--Vanished Wetlands in the Willamette Valley". Note change of date because of Columbus Day holiday. For more info., call Esther McEvoy (754-0893).

26 Oct., Sat.

FIELD TRIP. Mushrooming with Dan Luoma. Leave from the parking lot across from the Monroe Campus Beanery at 8am. Bring lunch, raingear, and a basket. Fieldtrip will return around 5pm. For more info., call Dan Luoma (758-8063).

27 Oct., Sun.

FIELD TRIP. "Lichen Identification" with Bruce McCune. Meet at the parking lot across from the Monroe Campus Beanery at 10am. We will return about 2pm. For more info., call Esther McEvoy (754-0893).

Emerald

16 Oct., Wed.

MEETING. 7:30 pm in the Library, Kennedy Middle School, 2200 Bailey Hill Road, Eugene. Rhoda Love will show slides and speak on: "What's Going on with the Western Hawthorns? Adventures in Mt. St. Helens Country." For more information, call Jenny Dimling, 343-3242. Note: This meeting has been moved from Monday to Wednesday because of the Columbus Day Holiday.

13 Nov., Wed.

MEETING. 7:30 pm in the Library, Kennedy Middle School, 2200 Bailey Hill Road, Eugene. Peter Zika will show slides and speak on: "Changes in the Alpine Flora of New England in the last 100 years." For more information, call Jenny Dimling, 343-3242. Note: This meeting has been moved from Monday to Wednesday because of the Veteran's Day Holiday.

9 Dec., Mon.

HOLIDAY SOCIAL. 7:30 pm at Rhoda Love's house, 393 FulVue Drive, Eugene. (Take South Willamette St., then Crest Drive, turn left a block above Wayne Morse Ranch Park.) Holiday Party with snack potluck and potpourri of members' slides. Bring a snack and 10-15 of your favorite slides of 1991. For more information, call Rhoda Love at 345-6241.

High Desert

For information, call Bill Hopkins (388-7434).

Mid-Columbia

2 Oct., Wed.

MEETING. 7:30pm at the Mosier School. Pat Wood, local proprietor of Wood's Native Plants, will present his "One Man's Approach to Native Plant Propagation" as the featured program.

6 Nov., Wed.

MEETING. 7:30pm at the Mosier School. Nancy Lackford, the Pacific Yew Coordinator for the US Forest Service, will give us a comprehensive overview of the Pacific yew, including its characteristics, historical use, marketing and conservation efforts.

North Coast

29 Oct., Thurs.

MEETING. 7pm at the Tillamook People's Utility District, Carl Rawe Meeting Room, 1115 Pacific, Tillamook. Al Krampert will continue his presentation on plant morphology. For more information call Jim Winslow (842-2246) after 5pm.

19 Oct., Sat.

FIELD TRIP. Learn about wild mushrooms with Jaylen Jones. Our annual mushroom walk will be at Cape Meares State Park. Meet at 10am at Cape Meares State Park lower parking lot. For carpooling meet at the Tillamook PUD parking lot at 9:30am. For more information call Jim Winslow (842-2246) after 5pm.

Portland

8 Oct., Tue.

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. Nancy Fredricks will give a presentation on *Calochortus*.

19 Oct., Sun.

FIELD TRIP: Bayocean Spit. Easy 5 mile hike along the east side of the spit. Leave 10am from the Bayocean Spit Parking Area. Leaders: Mike & Nancy Fahey (206-694-2902).

Siskiyou

10 Oct., Thurs.

MEETING. Dr. Paul Lemon, ecologist and Adjunct Professor of Biology at Southern Oregon State College will present a talk and slides on his recent trip to the tropical rain forest in Brazil. 7:30pm in Room 171 of the Science Building at Southern Oregon State College. The public is invited. For information, call David Kennedy (535-6383).

24 Oct., Thurs.

MEETING. Members interested in conservation will meet to discuss issues including monitoring and listing of rare plants in southern Oregon. 7:30pm, 496 Beach St., Ashland. For information call Darlene Southworth (w-552-6865 or h-488-1034).

Umpqua Valley

15 Oct., Tues.

MEETING. Plant communities and soil types on different landforms and parent materials in Douglas County by David Turcotte of the USDA Soil Conservation Service. 7pm in the Douglas County Court house, Roseburg.

19 Oct., Sat.

FIELD TRIP. Carpool from the BLM parking lot, 777 Garden Valley Rd., Roseburg at 8am. Plant communities and soil types on different landforms and parent materials (in Douglas County's geologic "Bermuda Triangle") lead by David Turcotte of the USDA Soil Conservation Service.

Willamette Valley

21 Oct., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. Dr. Ken Chambers presents "Does Every Species Really Count?"

William Cusick

For information, contact Paula Brooks (523-7564).

WELCOMING OUR NEW MEMBERS....

We have 22 new members to report!

Blue Mountain Chapter	Valerie Madison
Corvallis Chapter	Elizabeth Starker Cameron
Emerald Chapter	Betty Kirsch Daniel A. Conklin George Sugai Katherine Pipes Patricia Thomassen
High Desert Chapter	Cindy Jeffers Greg R. McClarren Joseph Jones Kathy Lloyd & Drake Barton Robert & Julia Johnson Sheryl Shoaf
North Coast Chapter	Elizabeth Meyer Gloria Schwab
Portland Chapter	Elsie Grooms Josh & Barbara Wall Paula Pearson McNamee Roger M. Brewer
Siskiyou Chapter	Yvonne C. Lowery
Umpqua Valley Chapter	Dennis J. Phillips
Willamette Valley Chapter	Danae Yurgel & David Tift

BUNCHBERRY IN OREGON: CORNUS CANADENSIS OR CORNUS UNALASCHKENSIS?

There is an old botanical joke to the effect that *Cornus*, the genus of dogwood, can be recognized by its "bark." This can hardly be true, however, of *Cornus canadensis* (bunchberry or dwarf cornel) which is an herb only a few inches tall, lacking both wood and bark, and forming an extensive groundcover by means of creeping rhizomes. Its relationship to the more familiar arborescent species of *Cornus*, such as our native flowering dogwood, *C. nuttallii*, and its widely cultivated eastern relative *C. florida*, is evident only in technical features of the inflorescence—including the four white, petal-like bracts which surround a head-like cluster of tiny flowers. As in all *Cornus* species, the fruits of bunchberry are drupes ("berry" is botanically a misnomer), and each individual flower has four sepals, four petals, four stamens, and a single style. The leaves are always opposite (two per node), but in *C. canadensis* the upper two to three pairs are very closely spaced and appear to be whorled at the tip of the stem.



Figure 1 *Cornus suecica* from Gustav Hegi's "Illustrated Flora of Middle Europe,"

Cornus canadensis is not only one of America's best known and most attractive wildflowers but is also a favored horticultural subject for temperate-zone gardens. Its natural range—as given in most current reference books—is throughout Canada, Alaska, and the northern tier of states of the "lower 48," south in the Rocky Mountains to New Mexico and along the Pacific Coast to northwestern California. It is also found disjunctly in eastern Asia, from Korea and China to northern Japan. There is only one other herbaceous species of dogwood, *Cornus suecica*, a plant of northern Europe ("suecica" is Latin for "Swedish"), Greenland, eastern Canada, Alaska, and coastal eastern Asia. As shown in Figure 1, below, this very close relative of *C. canadensis* has several pairs of stem leaves (instead of one or none) and only a single leaf pair at the tip of the flowering stem (instead of a "whorl" of four to six); also, its flower cluster is purplish rather than greenish-yellow as in *C. canadensis*. The widespread boreal distribution patterns of these two species are thus not identical (e.g., *C. canadensis* is absent from Europe, while *C. suecica* is not present in central and western Canada nor in the United States south of Alaska); nonetheless, they overlap in eastern Canada, Alaska, and eastern Asia.

For such a well-known species as *Cornus canadensis*, we would hardly expect a question could arise concerning its identity and correct scientific name. Yet in recent floristic publications covering western Canada, taxonomists James Calder and Roy Taylor have proposed using the name *Cornus unalaschkensis* for nearly all the "*C. canadensis*" plants of coastal and southwestern British Columbia, plus Washington, Oregon, and California. Their evidence, which has also been supported in studies by John Bain and Keith Denford of the University of Alberta, is based on the known ability of *C. canadensis* and *C. suecica* to hybridize with each other (in those areas of Alaska and eastern Canada where their natural ranges overlap). Botanists working on the floras of Alaska and eastern Canada have long been aware that hybrids can be found between these two kinds of bunchberries, wherever the species occur together. The assumption has been, however, that these morphologically intermediate plants were infertile and propagated themselves only by rhizomes; under such circumstances, they would not deserve separate species status.

The critical discovery made by the Canadian botanists cited above, however, is that many of the Northwest American plants presently called "*Cornus canadensis*"—especially in areas with a maritime rather than continental climate—not only have a hybrid-like morphology but are tetraploids. That is, their chromosome number (44) is twice the usual number found in diploid *C. canadensis* and *C. suecica* (22). Like many other plant species that have hybrid origins and doubled chromosome numbers, the tetraploids are reproductively fertile and genetically distinct from their original parents; therefore, they are evolutionarily and biologically a separate species. The name *Cornus unalaschkensis* was given to such plants a century-and-a-half ago by German botanist Carl Ledebour, an authority on the flora of Russia (Alaska was then a part of the Russian Empire). Recent collections of bunchberries from Unalaska Island—the type locality—were examined by Bain and Denford and have the cell-size characteristics of tetraploids; therefore, the species properly must bear the name assigned to it by Ledebour.

If we agree that *Cornus unalaschkensis* is a separate species from *C. canadensis*, then the former name is apparently correct for all bunchberries in Oregon. I have examined "*Cornus canadensis*" collections in the OSU Herbarium and verified that everything we have from southwestern British Columbia, Washington (from the Cascades to the coast), and Oregon (even as far east as the Wallowa Mountains and south to Klamath County) is *Cornus unalaschkensis*. Taxonomically, then, for Oregon we have no problem—we can simply switch names from *canadensis* to *unalaschkensis* without worrying about how to tell which species is which, morphologically. Elsewhere in Canada and the western United States, however, it seems to me (based on available herbarium specimens) that *C. unalaschkensis* very much resembles *canadensis* in leaf shape and growth form (whorled upper leaves, with a pair of reduced leaves at the next lower node). The one most consistent difference is in flower color, referring not to the bracts of the inflorescence (white in both species) but to the petals of the tiny, clustered flowers. In *Cornus canadensis* proper, the petals are greenish-yellow, whereas in *C. unalaschkensis* they are purplish on the tip and mid-line, and yellowish at the edges and base (bicolored petals, in other words). This coloration is the only clearcut characteristic inherited from its *C. suecica* parent, which has dark purple petals; all other traits appear to be variable and only subtly different from *C. canadensis*.

I have not yet seen any scientific articles discussing the distribution of *Cornus unalaschkensis* in states to the east. The OSU herbarium has specimens of it from Idaho, and it has been reported from as far east as Colorado. Another unanswered question is if there are spots in the US or Canada where *C. unalaschkensis* and *C. canadensis* (in the narrow sense, having yellow petals and 22 chromosomes) exist together. Only a slight morphological difference distinguishes these two, making them "cryptic species" in the terminology of systematists. This phrase implies that closely related species of a given genus may be biologically distinct to the same degree as "normal species," but show only a minor amount of morphological divergence. Superficially these two species look very much alike, but at a deeper biological level, the hybrid origin and doubled chromosome number of *C. unalaschkensis* strongly argue against lumping it taxonomically under *C. canadensis*.

There must have been two or more periods in the history of these species when hybridization occurred between *canadensis* and *suecica*. Today, where they grow together in the far north, active exchange of genes leads to sterile diploid hybrids having 22 chromosomes and a distinctly intermediate morphology. A much earlier cycle of hybridization in preglacial times probably produced *C. unalaschkensis* through chromosome doubling, stabilization of its characteristic morphologic and ecologic features, and establishment of a discrete geographical range south of the continental ice sheets. After the retreat of the glaciers, it migrated northward in British Columbia and southern Alaska. All aspects of this historical narrative need further study and scientific verification, however. The questions posed by these bunchberries are typical of the many unsolved puzzles so characteristic of Oregon's fascinating native flora.

—Ken Chambers
Corvallis Chapter



Figure 2 *C. unalaschkensis* from Calder and Taylor's "Flora of the Queen Charlotte Islands.

INVITATION TO JOIN FRIENDS OF IRON MOUNTAIN PEAKS

Iron Mountain and its neighboring peaks (Cone Peak, North and South Peaks, Browder Ridge and Echo Mtn.) are among the most popular recreation destinations in the central Old Cascades. These peaks are enjoyed by thousands each summer who seek the spectacular wildflower displays, high elevation meadows, geologic formations and beautiful vistas. Several chapters of NPSO visit the Iron Mtn./Echo Mtn. Special Interest Area each year.

The Sweet Home Ranger District recognizes that growing use has the potential to adversely impact the unique environments of Iron Mountain and neighboring peaks. In an effort to plan for long-term recreational use of the Iron Mountain peaks, we are seeking input and interest from the public. We are forming the Friends of Iron Mountain Peaks, a non-profit group that will advise and assist in determining the recreational focus and projects in this special area.

We would like to extend a special invitation to Native Plant Society members to join the Friends of Iron Mountain Peaks. Your devotion to mountain environments and enjoyment of outdoor recreation would make you an especially valuable member of the Friends. There is a tremendous range of projects and issues with which a Friends member could become involved: trail system planning; brochure and signage projects; safety and sanitation issues; trail maintenance programs; volunteer trail guides/interpreters; rehabilitation and recovery of fragile areas; research, inventory, and monitoring projects. Your level of involvement and choice of focus will be determined by your personal interests.

We plan to hold our first Friends meeting in November. At that time we will establish goals and objectives and try to prioritize some projects for 1992. Please consider lending some of your dedication and energy to conserving the special character of these Old Cascades peaks and determining the long-term direction of recreation programs in the area. Let us know if you are interested in becoming a Friend of the Iron Mountain Peaks.

Mandy Cole
Sweet Home Ranger District
3325 Hwy. 20
Sweet Home OR 97386
{503} 367-5168

NEW COASTAL BOTANICAL PRESERVES ... OR MORE OFF-ROAD-VEHICLE AREAS?

The Siuslaw National Forest is pondering alternatives for two proposed Research Natural Areas (RNAs) within the Oregon Dunes National Recreation Area near Reedsport.

Recall that the federal RNA program tries to identify and set aside small but high quality baseline areas representing the full spectrum of ecological types in each state. These are used for passive research purposes such as studying plant succession and defining the botanical constituents in naturally evolving communities. Generally, an area is only nominated after an extensive examination of the remaining options. Each site is unique--no duplication of features is allowed. Compatible uses (here, hiking) are allowed--RNAs are not lock-ups. Research areas are specifically allowed in the 1972 enabling legislation for the ODNRA.

Tenmile Creek, below Reedsport, is a rare intact coastal dune mosaic, featuring a host of specialized plant communities such as tree islands and mature coastal coniferous zones. It has been targeted by ORV pressure groups who want an access road to yet another mass staging area. Three-mile Creek, on the north Umpqua spit, has nearly unique parabolic dunes and a more extensive deflation plane (with associated rare plants such as *Lycopodium inundatum*). It is in an earlier seral stage and is crucial for understanding plant succession in this environment. The area is under unsustainable use by mushroom collectors.

Introduced species (European beachgrass, gorse, and Scot's broom) have wreaked havoc along the Oregon coast through foredune stabilization. Many people talk about restoration, but without remaining natural areas, how will we know what the goal should be, much less how to get there? The Siuslaw may be heading for a 'compromise': trash one of the areas for all eternity and protect the other, at least on paper. Our Chapter would like to see **both** RNAs established.

Your letter can make a difference. Write today:
Renata McNair, Area Ranger
Oregon Dunes NRA
855 Highway Avenue
Reedsport, Oregon 97467

--Tom Pringle,
Emerald Chapter

STATE BOARD MEETS OCTOBER 5TH

Ever wonder how the Native Plant Society of Oregon manages its diverse statewide activities? Your next chance to see our far-flung State Board organization in action is Saturday Oct. 5th, 10am at the Mosier School in Mosier Ore. in the Columbia River Gorge. All NPSO Board meetings are open to the public and members are encouraged to attend and participate.

The voting members of the State Board of the NPSO include State Officers, Chapter Presidents, and the Directors of the organization. A quorum is needed at each meeting to conduct business. Each Board member has a report to make on the activities they direct or oversee, as do all state committee chairs. In an organization such as ours communications are essential in carrying out our purposes and in reaching our goals. Attendance by all Board members is needed to assure the clearest communications possible within our organization. If Board members or committee chairs cannot attend, they should either send a representative or submit a written report to the secretary before the meeting.

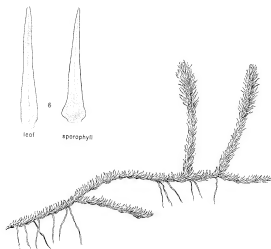
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W--842-4131 H--842-2246

VICE PRESIDENT: Vacant

SECRETARY:
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17285 Wilson River Hwy.
Tillamook, OR 97141
842-2070

TREASURER:
Alfred Krampert
5345 Netarts Hwy NW
Tillamook, OR 97141
842-2308



Lycopodium inundatum
From Hitchcock & Cronquist's
Flora of the Pacific Northwest
Drawn by Jeanne R. Janish

BITS AND PIECES

---NEWS AND INFORMATION FROM ALL OVER

COAST AND OCEAN CONFERENCE

The 2nd Annual Coast and Ocean Conference will be hosted by the Oregon Natural Resources Council this November 2nd and 3rd at the Shiloh Inn in Newport, Oregon.

A variety of speakers will make presentations in their areas of expertise. Topics will include offshore oil development, oil spill clean-up, Coastal land use, Coastal forests, and threats to Coastal species and their habitats.

Registration for the weekend will be \$45 including lunch. For more information, call ONRC at 223-9001.

MUSHROOM SHOW AND FALL FESTIVAL

The Mount Pisgah Arboretum is hosting the 10th Annual Mushroom Show and Fall Festival on October 27th. This will be an excellent opportunity to learn about our fascinating, often colorful wild mushrooms. Hundreds of freshly collected specimens will be on display. Experts will be on hand to identify fungi brought in by visitors.

Expert trail guides will be on hand to lead nature walks for adults and children. Plants and seeds will be offered for sale. Food and drink will be available, including fresh-pressed cider and wild mushrooms. The cookbook Mushroom Madness will be on sale, with all proceeds going to the Arboretum. A Scarecrow Contest is being added this year.

Situated in Buford Park, off Seavey Loop Road on the Coast Fork of the Willamette River about six miles southeast of Eugene, Mount Pisgah Arboretum is being developed by The Friends of Mount Pisgah Arboretum, a non-profit association. Its purpose is to encourage the appreciation of trees, shrubs, wildflowers and ecology. It is open free of charge year-round. For more information, call them at (503)-747-3817.

HIKING MAP LOCATES OLD GROWTH AND TRAILS LEADING TO IT!

A new attractive topographical trail map, with areas of old growth nicely shaded green, was released this summer by creators Peter Eberhardt and John and Diane Cissel. It includes 50 hikes into old growth within the Willamette National Forest, with a full description of each outing. Trailheads for each hike are within 45 minutes to 3 hours from anywhere in the Willamette Valley. Directions and a map to the trailheads are included, as well as trail narratives. Another valuable feature is an article about the nature of old growth, which is tied in with descriptive information about mapping symbols. The map legend is clear and easy to use.

Each trail has been hiked by the authors since August 1990. The full range of old growth ecosystems found in the Willamette National Forest are included in the map. Trail narratives clearly describe the nature of the old growth along each trail, as well as difficulty of the hike. The information given will make it easy for anyone to zero in on areas of old growth for a day hike.

Here is one of the shorter trail descriptions:

"11. **Echo Basin** - This is a short (1 1/2 miles) loop trail through a very interesting and diverse glacial basin. After passing through a plantation the trail enters a cold-hardy forest of Alaska yellow cedar, noble fir, Pacific silver fir, and meadows. Some impressive old-growth yellow cedar (over 6' diameter) and noble fir are scattered along the trail." Anyone wishing to go, please give your editor a call!

The map is available from your local book or map store. It is also available from the creators in both folded and unfolded poster form. To order send a check for \$7.50 to:

Old Growth Day Hikes
PO Box 11288
Eugene, OR 97440

STATE OFFICERS

DIRECTORS	John Christy, Bill Hopkins, Tom Kaye, Warren Pavlat, Kathy Schunt, Carolyn Wright	652 W. 10th St. #1, Eugene 97402; 485-1868
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IMMEDIATE PAST PRESIDENT	Sue Garrett	2912 NW Arthur Ave., Corvallis 97330; 758-8063
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GUIDELINES FOR CONTRIBUTORS

The NPSO *Bulletin* is published monthly as a service to NPSO members and the public. Contributions of all types are welcome. **DEADLINE Copy is due with the editor by the 10th of each month.** **Test Format:** Submissions can be in any form. Camera-ready copy should be in 3.534 in. wide columns up to 9.3 in. long, with 22 in column spacing. The *Bulletin* uses 12pt. "Times" font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article pasted inside their favorite field guide. **Computer output:** The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modem. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are useable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article. **Credits:** If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion. **Scientific Names:** Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize* genus and species underline if italic is not available). **Return of Originals:** Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all. Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____ Chapter (if known) _____
 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
 City _____ State _____ Zip+4 _____
 Phone (Home) _____ (Work) _____ City _____ State _____ Zip _____

* **DUES** include monthly NPSO *Bulletin*. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() <i>Bulletin</i> Subscription only	\$12.00
() Student			\$ 8.00	() Sustaining	\$ 30.00
() Regular			12.00	() Patron	100.00
() Family Membership			18.00	() Life Member	500.00

* CONTRIBUTIONS:

Jean Davis Memorial Award Fund	\$ _____
Leighton Ho Memorial Award Fund	\$ _____
Rare and Endangered Plant Fund	\$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:

Jan Dobak, NPSO Membership Chair, 2584 NW Savier St., Portland OR 97210-2412.

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Address Correction Requested
*Send change of address notices
and membership requests to:*
Native Plant Society of Oregon
Jan Dobak, Membership Chair,
2584 NW Savier St.,
Portland, Oregon 97210-2412

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Bulletin of the

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4 Nov., Mon.

MEETING. 7:30pm in Room 130, Morrow Hall, Blue Mountain Community College. Program to be announced.

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MEETING. 7:30 pm in the Library, Kennedy Middle School, 2200 Bailey Hill Road, Eugene. Peter Zika will show slides and speak on: "Changes in the Alpine Flora of New England in the last 100 years." For more information, call Jenny Dimling, 343-3242. Note: This meeting has been moved from Monday to Wednesday because of the Veteran's Day Holiday.

16 Nov., Sat.

FIELD TRIP: Cheshire Mayrhoen will lead a mushrooming trip to the coast. Bring lunch, rain gear, boots, basket and knife. Leave from South Eugene High School parking lot, corner of 19th and Patterson at 9:30am. For more information, call Cheshire (689-8189).

14 Dec., Sat.

FIELD TRIP: Rhoda Love will lead a winter tree and shrub ID walk at Mt. Pisgah Arboretum. Each participant will receive a revised winter twig key. Bring hand lens, pocket knife and ruler. Lunch and drink optional, as this trip will end around noon. Leave from South Eugene High School parking lot, corner of 19th and Patterson at 10am. For more information, call Rhoda (345-6241).

9 Dec., Mon.

HOLIDAY SOCIAL. 7:30 pm at Rhoda Love's house, 393 FulVue Drive, Eugene. (Take South Willamette St., then Crest Drive, turn left a block above Wayne Morse Ranch Park.) Holiday Party with snack potluck and potpourri of members' slides. Bring a snack and 10-15 of your favorite slides of 1991. For more information, call Rhoda Love at 345-6241.

High Desert

For information, call Bill Hopkins (388-7434).

Mid-Columbia

6 Nov., Wed.

MEETING. 7:30pm at the Mosier School. Nancy Lankford, the Pacific Yew Coordinator for the US Forest Service, will give us a comprehensive overview of the Pacific yew, including its characteristics, historical use, marketing and conservation efforts.

4 Dec., Wed.

MEETING. 7:30pm at the Mosier School. Keith Chamberlain will present a slide show featuring the botanical highlights of his travels over the past year.

North Coast

26 Nov., Tue.

MEETING. 7pm at the Tillamook People's Utility District offices, Carl Rawe Meeting Room, 1115 Pacific, Tillamook. Al Krampert will continue his presentation on plant morphology. For more info, call Jim Winslow (842-2246) after 5pm.

FIELD TRIP: Call Jim Winslow (842-2246) after 5pm for information.

Portland

12 Nov., Tue.

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. Roger Yerke will talk on ferns.

Siskiyou

14 Nov., Thurs.

MEETING. "The Ashland Greenway Project" will be the subject of a presentation by Karen Smith. We will discuss native plants and plant communities in the proposed greenway. 7:30pm in Room 171 of the Science Building at Southern Oregon State College. The public is invited. For information, call David Kennedy (535-6383).

Umpqua Valley

14 Nov., Thurs.

MEETING. View John Burks' collection of gymnosperm cones. 7pm in Rm. 310 of the Douglas County Courthouse, Roseburg.

16 Nov., Sat.

FIELD TRIP. Gymnosperms and their habitats. Carpool from the BLM parking lot, 777 Garden Valley Rd., Roseburg at 9am.

Willamette Valley

18 Nov., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. Our speaker this month is Dr. Susan Kephart, a Professor of Biology at Willamette University. Her slide presentation will address "Biodiversity—a Focus on the Tropics". For more info., call Kathy Connelly (393-1834).

16 Dec., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. Wilbur Bluhm, a local native plant authority, will give a slide presentation on "Native Rhododendrons and their companion plants". For more info., call Kathy Connelly (393-1834).

William Cusick

For information, contact Paula Brooks (523-7564).

WELCOMING OUR NEW MEMBERS....

We have 19 new members to report as of October 3rd!

Corvallis Chapter	Joe Mailander
	Julie Summers
Emerald Chapter	Alex Kelly
	Molly Widmer
	Neils Christainsen
High Desert Chapter	Nancy London
	Richard W. Mayberry
North Coast Chapter	Jean P. Gammon
Portland Chapter	Arlan J. Madsen
	Fred Small
	Karen Sims
	Margaret Steere
Siskiyou Chapter	Alice Whited & Harvey Martin
	Alison Arnold
	Fred & Annick Flaxman
Willamette Valley Chapter	Don Renfro
	Douglas Malcolm Chadwick
	Ila M. Lemons

GRAZING: ISSUE OF THE 90'S

"The NPSO does not have a grazing policy. There has been some discussion of developing one. I'd like to hear from NPSO members on this issue....Let me know what you think."

With this call for an open discussion on cattle, grazing and range issues, Stu Garrett two months ago unleashed a flurry of letters and the exchange of many viewpoints on what has over the past couple of years become the most talked-about subject of concern for our society and for many others involved with management of our lands. There have been more references to cows, cattle, grazing and related issues in the *Bulletin* over the past year than on any other subject. Though no official policy has been established by the NPSO, there has been no shortage of activism on the part of some of its members in opposition to grazing. A review of articles from the NPSO *Bulletin* on grazing will bring up many interesting bits of information and history. See the sidebar on page 129 for a listing from the past year and a half.

Opinions about grazing fall into four general categories, each of which has some merit and which are held by a variety of people. The four positions can be summarized as follows:

- 1) 'Overgrazing is the problem, and less grazing, combined perhaps with proper timing and other techniques will solve the problem.' This is the position held by some government agencies and ranchers, and a few conservationists.
- 2) 'Wise grazing can actually be beneficial in some ways.' This is the position of the followers of Holistic Resource Management, as well as some others who by observation have concluded not all cattle grazing is bad.
- 3) 'Cattle are not native so they should be excluded from [usually] public lands.' Any exotic species, plant or animal, upsets the natural balance, so should be banned for this reason alone.
- 4) 'Meat production is unnecessary, wasteful and damaging, and should be stopped.' This vegetarian viewpoint is backed by some interesting statistics and facts but runs counter to the habitual carnivorousness of many people.

The following excerpts are taken from the many letters received by the NPSO. These excerpts will help illuminate the ideas behind the four positions just mentioned. For reasons of space and clarity the entire letters are not being reproduced, but are quoted to concentrate on the opinions being expressed.

"...we should appraise the multiple impacts of domestic livestock grazing on native ecosystems..."

How can NPSO be an advocate of native ecosystems and yet not object to dominance of these ecosystems by a non-native herbivore?

....Probably no ecological factor has been, and continues to be, more destructive to native biodiversity than *Bos taurus*....Heavy grazing reduces bunchgrass cover, in turn preventing natural fires and favoring invasion of shrubs and junipers into what once were grasslands. Cattle erode hillslopes and riparian areas, filling streams...and lowering the water table through channel down-cutting. Water diversions and wells for stock tanks and hayfields reduce precious water supplies further. Fisheries decline from reduced (stream) flows and silt.... Fences built to exclude livestock from riparian areas inhibit movements of pronghorn and other native animals. Cattle compete... for forage and water with native herbivores. The list goes on and on.



Some pseudo-ecologists claim that proper grazing practices benefit native vegetation. Most of these apologists for the livestock industry are followers of Holistic Resource Management guru Alan Savory. But Savory has no credibility in the scientific community. To my knowledge (and I've checked), none of his claims have been verified through reliable scientific methods....This is not to say that grazing cannot be used as a management tool in some specific circumstances. But native ungulates and other herbivores, combined with prescribed fire and other techniques, are generally far preferable to cows....

The ecosystem is an integrated unit. If we cherish native communities, we must consider the animal component as well as the plants, for trophic levels interact. We should seek to eliminate cows as urgently as we seek to eliminate any other non-native weed from our public lands.

--Reed F. Noss, Ph.D.
Ecologist and Conservation
Biologist, Corvallis

RECENT ARTICLES ON GRAZING ISSUES IN THE NPSO BULLETIN

- "Cattle Grazing in Rooster Rock State Park: A Treasure Abused" Russ Jolley, July 1990 (23:7) p. 78.
"Report on Our Field Trip to Rooster Rock State Park Wetlands" Russ Jolley, September 1990 (23:9) p. 101.
Several articles were grouped together in October 1990 (23:10) on this subject.
"The Power of Small Things" Maria Loe, November 1990 (23:11) p. 123.
"Treating Pinyon-Juniper Woodlands" Bryan Boyce, November 1990 (23:11) p. 124.
"The Eastside Conservation Report" Stu Garrett, December 1990 (23:12) p. 128.
"No Moo at Mount Pisgah Too?" Tom Pringle, January 1991 (24:1) p. 3.
"Cows: Just a Bad Memory At Hart Mountain" Tom Pringle, June 1991 (24:6) p. 76.

"...(Rangelands) need more protection from overgrazing."

I am responding as a NPSO member and a seasonal TES botanist to your request for input on grazing issues. Its good to see the NPSO moving towards developing a grazing policy.

I have three areas of concern:

- 1) Riparian areas need more protection....this summer I saw creeks where cattle were totally excluded except for narrow, fenced corridors where they could get to the water for drinking. Protected watercourses harbor a more diverse flora and supposedly flow more strongly through the year than those that are heavily grazed.
- 2) Upland areas need more protection from overgrazing. Many allotments look OK, but others are badly abused....
- 3) Cattle grazing in wilderness areas should be phased out. It seems that the recreational opportunities available in wilderness are becoming more prized. It is doubtful that the benefits of grazing in wilderness can outweigh the benefits of recreation use....

One way that the NPSO can influence grazing policy on USFS lands is to get involved in the environmental assessments that the USFS is starting to do on allotments. These EAs are (supposedly) done at the time of the periodic "re-permitting" for each allotment.

--Nick Otting
Corvallis Chapter

"...it is no coincidence that all remain- ing populations...have been grazed for decades..."

....I've been studying the Western lily in northwest California for many years, and have watched the effects of seasonal grazing on maintenance of habitat. I suspect it is no coincidence that all remaining populations in California have been grazed for decades...yet grazing clearly is a chronic stress, reducing reproductive success on the short term. So it is a strange mix, yet apparently necessary for survival in coastal prairie/scrub habitat in our area, in absence of fire. However, I've been trying for years to get the FS to take grazing off the botanical areas and research natural areas in our region. Certainly monitoring and selective use of grazing where justified are key elements. Yet, baseline conditions and justification cannot be determined without withdrawal of grazing---something the land managers have a hard time understanding.



--Dave Limper
California Native Plant Society

"Blanket opposition to livestock grazing...is not balanced; nor is it ecological."

The following is excerpted from Stephen W. Edwards' article "Overgrazing, Undergrazing and Grazing", first published in Bayleaf, Newsletter of the East Bay chapter of the California Native Plant Society, July 1991.

....CNPS has become an influential statewide organization because its positions are generally well researched and balanced. Blanket opposition to livestock grazing...is not balanced; nor is it ecological. Many CNPS members are aware...of the half-century of research (e.g. at UC Davis and UC Berkeley) demonstrating the beneficial effects of grazing for native perennial bunchgrass recruitment, and for biodiversity (most recently, John Menke showed that a pulse of spring grazing by sheep promoted purple needlegrass (*Stipa pulchra*) at Jepson Prairie).

Sadly, many people who want grazing removed altogether have been unable, or unwilling, to distinguish between grazing, overgrazing and undergrazing. It is not reasonable to look across a fence into an overgrazed pasture on a productive soil, then compare that pasture with the rocky roadcut outside the fence. Rocky roadcuts preserve native biodiversity because competition from exotic annual grasses is reduced there. Graze the property properly---with the right number of livestock, for the right amount of time, and the roadcut biodiversity will spread throughout the pasture...Undergraze the pasture, or rest it entirely, and it will become a biological desert. In contrast to grazed productive pasture vs. rocky roadcut, it is reasonable to compare grazed pasture with adjacent ungrazed terrain of comparable slope aspect and soil depth. In these cases the richer grassland is usually on the grazed (even overgrazed) side of the fence.

Everyone can point to special grassland habitats where absence of grazing is not conspicuously injurious, and where native biodiversity persists despite livestock exclusion. There is a long list of special sites of this kind---for example, on many serpentine terrains. However, even in such special places, observation shows that some grazing will improve the native condition in most cases.... Grazing was removed from Tilden Park in 1934. The result has been wholesale loss of grassland to coyote brush encroachment, and biodiversity-desertification of most of the remaining grassland---which now consists of three to four foot tall exotic grasses, sickeningly interwoven with masses of mustard and poison hemlock....

...it is good for CNPS to seek change where valuable native plant habitat is being overgrazed. Overgrazing destroys native biodiversity. But experience has shown that it can be disastrous to remove grazing altogether, swinging immediately from the trauma of overgrazing to the trauma of over-rest. That is what occurred when Pt. Reyes staff excluded cattle from their main colony of *Alopecurus aequalis sonomensis*: the population of this endangered grass nearly disappeared in one season.

I urge all CNPS members to consider carefully the grazing issue. It can be quite an enjoyable pastime to scrutinize both sides of pasture fences...to see what's happening on grazed vs. ungrazed sides. One quickly discovers that most of the great wildflower displays in lowland California are, and always have been, grazed by large ungulates. The vast sheets of flowers are kept in good shape by livestock, just as they were by huge herds of thousand of elk, prehistorically, and up until 10,000 years ago, by two kinds of *Bison*, two other species of large grazing bovids; horses; elk; and grazing mammoths (see *The Four Seasons*, vol. 8, #4, 1990 for a detailed discussion). Grazing is the origin of the California native grasslands; apart from large grazing animals our native flora is unintelligible. Overgrazing destroys it. On productive soils, so does undergrazing. Overgrazing depletes native plants and their seed reserves; undergrazing (on productive soils) allows exotic annuals to grow obscenely rank, literally smothering relict natives. To follow overgrazing on productive sites with grazing exclusion is a recipe for disaster. Even on unproductive sites, it is generally better to modify and carefully to monitor grazing, rather than to remove it altogether....

"As an organization concerned about extinction of native species, NPSO should take a position of phasing all livestock off of all public land."

"Although I missed Stu Garrett's Hatfield Ranch field trip, I had met the Hatfields at a conference two years ago where I saw slides of their livestock management system. While I feel that what the Hatfields are doing is a small step in the right direction and I applaud them for their efforts to bring other ranchers along, I feel that NPSO should be courageous enough to delve into root causes and tackle on a systemic basis causes leading to extinction of native species.

The facts below about our cattle/meat-based diet in the US excerpted largely from Diet For a New America by John Robbins lead me to a different conclusion from Dr. Garrett's. Fifty-six percent of all agricultural land in the US is used to produce beef. Of the 4,000,000 acres of US cropland lost each year to soil erosion 85% is directly associated with livestock raising. 260,000,000 of US forests have been cleared to create cropland to produce a meat-centered diet....Livestock production uses half of all water used for all purposes in the US. The water needed to produce one pound of meat is 2500 gallons while an equal quantity of wheat takes only 25 gallons. Water...is heavily subsidized....if US taxpayers ceased subsidizing the meat industry's use of water, of pound of protein from beefsteak would cost \$89.00. Energy experts estimate that an additional 6,000 megawatts of electricity would be available from the Northwest's power plants if water from our rivers were not diverted to grow livestock feed and produce meat. (This is double the total amount of energy currently generated by all the Northwest's nuclear power facilities combined.) Thirty-three percent of raw materials consumed in the US for all purposes are used to produce our current meat-centered diet, while only 2% of all raw materials consumed are needed to produce a fully vegetarian diet....

As an organization concerned about extinction of native species, **NPSO should take a position of phasing all livestock off of all public land.** This should be a first step in phasing livestock off of ALL our land--a process that will take a long-term educational process and require a substantial

change in the American lifestyle. I hope our members will help lead the way and support the desired public policy with their own lifestyles.

---Mary Vogel

GRANT PROPOSALS REQUESTED

The Native Plant Society of Oregon continues to sponsor small research grants. The objectives of the program are: 1) to stimulate basic field research into the biology and distribution of Oregon's native and naturalized flora, particularly in the more remote areas of the state, and 2) to promote native plant conservation through better understanding of Oregon's flora and vegetation and the factors affecting their survival. In addition, the Leighton Ho Field Botany Award will be a matching grant for a cooperative project with The Nature Conservancy. Information on TNC's research needs can be obtained from Cathy MacDonald, Director of Stewardship, 1205 NW 25th, Portland, OR 97210. Telephone: (503) 228-9561.

Those interested in applying for funding can obtain the program policy and guidelines from Dan Luoma, Research Grants Committee Chair, 2912 N.W. Arthur Ave., Corvallis, OR 97330. Research proposals are due by March 1, 1991.

---Dan Luoma

OUR RARE & ENDANGERED PLANT FUND

The R & E Fund was founded many years ago to provide support for our rare and endangered species work. This Fund now operates as a separate entity and stands apart from our general fund. It will continue to support projects related to rare, threatened or endangered plants and disbursements will be controlled by the Board. A new approach will be tried in the allocation of contributions to this fund. This method is perhaps best referred to as the "50-50" rule. One-half of all donations to this Fund will go into a capital account to accrue interest for future projects. The other fifty per cent will be available for projects that year. Any unused monies will revert into the capital account. The same strategy will control what happens to the interest from the capital part of the Fund. This will allow us to support projects while building a source for stable and ongoing funding in the future.

---Stu Garrett, Eastside Conservation Chair

**FORMER PORTLAND
CHAPTER PRESIDENT
STANLEY G. JEWETT JR. DIES**

Prominent entomologist, fisheries scientist and native plants nurseryman Stanley G. Jewett Jr. passed away from progressive supranuclear palsy September 1st at the age of 74. Portland Chapter NPSO President in 1985-86, he also had served on the boards of the Oregon Chapter of the Nature Conservancy and the Portland Chapter of the American Rhododendron Society. He had been chief biologist with the Columbia River Basin region of the National Marine Fisheries Service for 26 years until his retirement in 1972. In this position he supported designing hydroelectric projects to preserve fish runs in the Columbia and its tributaries. After his retirement He started a nursery specializing in native plant species, which he ran for 15 years.

He was an internationally known expert on stoneflies worldwide. He served as a research associate in systematic entomology at Oregon State University and held a similar position with a Florida institution. He was a consultant in the development of the Insect Zoo at Washington Park.

His family suggests remembrances be contributions to the Nature Conservancy.



Campanula scouleri
Bluebells of Scotland
Drawn by Herm Fitz

**CONTRIBUTIONS TO
THE NPSO BULLETIN**

Your Native Plant Society *Bulletin* has brought you many interesting articles, all of them provided by members and other native plant oriented parties. Through the *Bulletin* you've had the opportunity to learn about recent botanical research projects, the origins and derivations of plant names, rare and endangered plants and efforts to conserve them. Other recent articles included a history of the beginnings of the society, the preservation of Oregon's redwoods, and there is a continuing spate of articles concerned with grazing and its effects, including much of this issue.

The *Bulletin* is as always in need of informational and educational articles about our native plant interests, as well as news to keep our membership informed of activities of the chapters and the state organization. Also, artwork, photographs and other graphics are needed, especially works which will fit needed dimensions.

It would benefit the membership if those who are responsible for NPSO activities would occasionally send in reports about how things went on field trips or other activities, especially the finding of unusual plants, or especially good talks, conservation actions, or anything else that may be of interest to the membership. Articles about native plants, their environment, ecology, nomenclature, or preservation all are useful. The search for plants in the wilds often can yield interesting articles. Histories of plants, plant hunting, or the NPSO are useful.

Hand-written, typed, and printed materials are all welcome. Contributions can be in almost any readable form. Camera-ready articles are usually reentered. Uniformity of type and formatting is now achieved within the Society's computer. Because computers allow very quick format and style changes, contributions on computer disks can be in any form and still require only a few moments to change into the *Bulletin* format. Contact your editor for details about sending in computer disks, or for any other information about the *Bulletin*.

Special materials, such as plant keys or advertisements, can follow any appropriate single or double column format. Full- or partial-page free-standing camera-ready submissions can follow any clear format.

POSTERS, NOTECARDS, T-SHIRTS, DECALS....

These Attractive NPSO Products Make Wonderful Gifts
and Show Your Support of NPSO Activities! Available from
your Chapter and at some Chapter events.

★ **POSTERS**---The NPSO State Organization is currently sold out of wildflower posters. Some chapters still have it available. Also, Emerald Chapter President Jenny Dimling has a quantity on hand. Contact her at PO Box 920, Eugene (343-3242). The currently available poster is not being reprinted. An all new poster is in the works. Watch this space for details about the upcoming release of our new poster series.

★ **NOTECARDS**---The new NPSO notecards feature seven rare plants illustrated by Julie Kierstead plus one by Eugene artist Valerie Sloane. Printed on pastel parchment-style paper in beige, grey blue and green with matching envelopes, these notecards make lovely gifts. Proceeds go to the NPSO's Rare and Endangered Plant Fund. The collector's quality works include Gentner's fritillary (*Fritillaria gentneri*), Kamchatka lily (*F. camchatcensis*), red clintonia (*Clintonia andrewsiana*), Myrtle Creek mariposa (*Calochortus coxii*), Barrett's penstemon (*Penstemon barrettiae*), rough popcorn flower (*Plagiobothrys hirtus*), triplet lily (*Triteleia laxa*), and Gorge daisy (*Erigeron oregonus*). For further information or to order via the mail, contact Nancy Fredricks at (509) 427-8778, Box 127, North Bonneville, WA 98639.

★ **T-SHIRTS**---Available through your local chapter, or these can be ordered through Jenny Dimling PO Box 920, Eugene, OR 974?? (503) 343-3242. They are in a variety of colors. Sizes and designs available are, in unisex sizes:
NPSO logo in S short and long sleeved.

Cornus canadensis in short and long sleeved L & M.

Darlingtonia in short sleeved M, long sleeved M & L, and sweatshirt S.

Delphinium leucophaeum in short sleeved XXL, XL, & S, and long sleeved S.

Erythronium in short sleeved M, and Long Sleeved M & S.

Lomatium bradshawii in short sleeved S.

Opuntia in long sleeved S.

Pediocactus in sweatshirt S.

Polypodium glycyrrhiza in short sleeved M and sweatshirt XL, L & M.

Trillium in short sleeved XL & L.

Viola glabella in short sleeved XL, L & M.

★ **DECALS**---Our official trillium logo is featured in green on an opaque white background. They are designed to go on the inside of your car or other windows. Order from the High Desert Chapter, c/o Stu Garrett, 21663 Paloma Drive, Bend, OR 97701. They are \$1 each with a minimum order of five.

BITS AND PIECES

---NEWS AND INFORMATION FROM ALL OVER

HURRIED YEW HARVEST IN MONTANA

The Pacific yew, recently found to contain a useful cancer-fighting compound, has come under heavy collecting pressure in its favored coastal western hemlock zone of Oregon and Washington. The drug company involved is emphasizing extraction of taxol from the bark, the collection of which destroys the tree. Extraction and study of closely-related compounds from yew foliage is, according to some, being given short shrift.

In Montana, Pacific yew is rare, restricted to moist, mesic old-growth sites, and grows much smaller than further west. Illegal harvesting of yew bark is a mounting problem there, just as it is here. More disturbing is the approach taken by some government agencies to yew harvesting.

Kootenai National Forest Supervisor Bob Schrenk has directed that the bark of all yews over 3 inches in diameter be harvested from the Forest. He has invoked a 'categorical exclusion' clause that excludes the public from involvement in the decision making process on this. Rights to all harvested yew bark has been given to Bristol-Meyers, as has happened elsewhere. Prior to this plan, Region One Supervisor John Mumma had directed forests to use National Environmental Protection Act documentation in assessing yew availability, and to emphasize harvest from planned timber sales.

Montana Ecosystems Defense Council, Resources Unlimited, and The Cabinet Resource Group joined in appealing this move, but saw the appeal thrown out. They have asked Forest Service Chief Dale Robertson to review the case. They charge that "The use of the 'categorical exclusion' to avoid NEPA documentation is an improper use of a regulation...meant to permit non-NEPA work to proceed to salvage damaged timber (blowdown or disease), not to harvest a key component of wet-site old growth groves such as the yew."

Unless an effective synthetic form of taxol is developed, or a foliage-derived form allowing economic commercial cultivation of the yew, mature yews will be exterminated before any general use cancer cure can be developed. Forest managers should face this fact before this occurs.

INTRODUCED SPECIES SLOWING REFORESTATION ON MOUNT ST. HELENS

Alien grasses and legumes were seeded on an area devastated by Mt. St. Helens' 1980 eruption in a failed attempt to prevent serious channel-producing erosion. The aliens are now limiting the success and spread of native plants, especially of conifers which were the dominant plants of the area before the blast. Researchers have found that populations containing more than 10 percent exotic species had reduced success and spread by the native plants present. The Soil Conservation Service of the Department of Agriculture has recognized its mistake in using non-natives at Mt. St. Helens. It is now developing native plant and seed supply resources for use in future erosion control projects nationwide.

NEW BITTERROOT RIVER FLORA

VASCULAR PLANTS OF WEST-CENTRAL MONTANA -- IDENTIFICATION GUIDEBOOK

Klaus Lackschewitz, 1991.

USDA Forest Service,

Intermountain Research Station.

General Technical Report INT-227, 648 pages.

This publication presents keys, illustrations and brief descriptions of the flora of the Bitterroot River drainage of Western Montana. The area covered includes the Bitterroot National Forest and much of the Missoula Ranger District of the Lolo National Forest. The author, Klaus Lackschewitz, is a well known Montana botanist who has spent 20 years studying the flora of this area. Many of the species in this book should range into the Wallows and other Eastern Oregon areas.

Previously published was an annotated checklist of the more than 1500 taxa present in the drainage, with detailed information on distribution, abundance, and habitat relationships.

The flora can be ordered from:
Publications Distribution,
Intermountain Research Station,
324 25th St,
Ogden UT 84401

STATE OFFICERS

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LEGISLATIVE	Esther McEvoy
MEMBERSHIP	Jan Dobak
WILDFLOWER POSTERS	Sold Out! New Posters are in the works.
NOTECARDS	Nancy Fredricks

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CORVALLIS	Nancy S. Weber
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WML CUSICK (LaGrande)	Karen Antell

PUBLICATIONS

BULLETIN EDITOR	Bryan Boyce
KALMOPHS EDITOR	Frank Lang

GUIDELINES FOR CONTRIBUTORS

The NPSO Bulletin is published monthly as a service to NPSO members and the public. Contributions of all types are welcome.

DEADLINE Copy is due with the editor by the 10th of each month.

Text Format: Submissions can be in any form. Camera-ready copy should be in 3.334 in. wide columns up to 9.3 in. long, with 22 in. column spacing. The Bulletin uses 12pt. "Times" font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article pasted inside their favorite field guide.

Computer output: The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modem. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are useable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article.

Credits: If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion.

Scientific Names: Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize* genus and species (underlining if italic is not available).

Return of Originals: Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all. Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____ Chapter (if known) _____
 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
 City _____ State _____ Zip+4 _____
 Phone (Home) _____ (Work) _____ City _____ State _____ Zip _____

* **DUES** include monthly NPSO Bulletin. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() Bulletin Subscription only	\$12.00
() Student			\$ 8.00	() Sustaining	\$ 30.00
() Regular			12.00	() Patron	100.00
() Family Membership			18.00	() Life Member	500.00

* CONTRIBUTIONS:

Jean Davis Memorial Award Fund	\$ _____
Leighton Ho Memorial Award Fund	\$ _____
Rare and Endangered Plant Fund	\$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:

Jan Dobak, NPSO Membership Chair, 2584 NW Savier St., Portland OR 97210-2412.

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*Send change of address notices
and membership requests to:*
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2584 NW Savier St.,
Portland, Oregon 97210-2412

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Bulletin of the

NATIVE PLANT SOCIETY OF OREGON

Dedicated to the enjoyment, conservation, and study
of Oregon's native vegetation

VOLUME 24 NUMBER 12

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OUR 30TH ANNIVERSARY YEAR

Its Renewal Time!

The NPSO membership year is January to December. Now is the time for members to renew. But first...check your address label on the back page of the *Bulletin*. You may already be paid for 1992. If there is a 91 on the top line, you need to renew now. A remittance envelope is included with this issue of the *Bulletin*. Or you can use the membership form on the inside back page. A membership can be an excellent gift to the right person. Its also a good time to consider a tax-deductible contribution to our special funds. The Leighton Ho Memorial Award is used for summer research projects in Western Oregon, and is a matching grant in cooperation with The Nature Conservancy. The Rare and Endangered Plant Fund supports work with our most threatened plants. The new Sallie Jacobsen Memorial Fund is subject of an article on page 141 of this issue. Contributions can also be made to the NPSO General Fund. NPSO membership brings you field trips, programs, classes, the monthly *Bulletin*, and the annual journal *Kalmiopsis*. Your membership and donations make it possible to carry out more of the many projects that are needed to pursue the goals of NPSO.

CHAPTER NEWS

IMPORTANT NOTE TO FIELD TRIP PARTICIPANTS:

Field trips take place rain or shine, so proper dress and footwear are essential. Trips may be strenuous and/or hazardous. Please contact the trip leader for information about difficulty, mileage, and terrain. Participation is at your own risk. Bring water and lunch. All NPSO activities are open to the public at no charge (other than carpool mileage), and friends, newcomers and visitors are always welcome.

Notice to field trip chairs and leaders: The Forest Service and other Federal agencies have set policies limiting group size in wilderness areas to 12. The reason for this is to limit the human impact on these fragile areas. Each group using wilderness must be no larger than 12.

Blue Mountain

2 Dec., Mon.

MEETING. 7:30 pm in Room 130, Morrow Hall, Blue Mountain Community College. Program to be announced.

6 Jan., Mon.

MEETING. 7:30 pm in Room 130, Morrow Hall, Blue Mountain Community College. Program to be announced.

Corvallis

For information, call Nancy S. Weber {753-9626}.

Emerald

9 Dec., Mon.

HOLIDAY SOCIAL. 7:30 pm at Rhoda Love's house, 393 FulVue Drive, Eugene. (Take South Willamette St., then Crest Drive, turn left a block above Wayne Morse Ranch Park.) Holiday Party with snack potluck and potpourri of members' slides. Bring a snack and 10-15 of your favorite slides of 1991. For more information, call Rhoda Love at 345-6241.

14 Dec., Sat.

FIELD TRIP: Rhoda Love will lead a winter tree and shrub ID walk at Mt. Pisgah Arboretum. Each participant will receive a revised winter twig key. Bring hand lens, pocket knife and ruler. Lunch and drink optional, as this trip will end around noon. Leave from South Eugene High School parking lot, corner of 19th and Patterson at 10am. For more information, call Rhoda (345-6241).

13 Jan., Mon.

MEETING. 7:30 pm in the Library, Kennedy Middle School, 2200 Bailey Hill Road, Eugene. Dr. Ethen Perkins will show slides and speak on: "Reproductive Biology of Butterfly Milkweed, *Asclepias tuberosa*." For more information, call Jenny Dimling, 343-3242.

10 Feb., Mon.

MEETING. 7:30 pm in the Library, Kennedy Middle School, 2200 Bailey Hill Road, Eugene. Dr. Daphne Stone, an expert on lichens, mosses and liverworts, will show slides and speak on: "The Ecology of Lichens and Some Interesting Lichens of Alaska, Oregon, California and Georgia". Dr. Stone's new brochure, *Lichens and Mosses of Mount Pisgah Arboretum*, will be available. For more information, call Jenny Dimling, 343-3242.

High Desert

For information, call Bill Hopkins (388-7434).

Mid-Columbia

4 Dec., Wed.

MEETING. 7:30pm at the Mosier School. Keith Chamberlain will present a slide show featuring the botanical highlights of his travels over the past year.

8 Jan., Wed.

MEETING. The 2nd Wednesday of the month due to the New Year's holiday! 7:30pm at the Mosier School. Mike and Jerry Igo will present a multimedia review of their BLM Cost Share Challenge project surveying for an *Astragalus* species near Tumalo.

North Coast

31 Dec., Tues.

MEETING. Canceled because it falls on New Year's Eve. For more information call Jim Winslow (842-2246) after 5pm.

Portland

10 Dec., Tues.

MEETING. 7pm at First United Methodist Church, 1838 SW Jefferson St., Portland. "Members Miscellaneous Program." Bring a dozen or so of your slides to show. Pictures of NPSO activities are especially encouraged, from the recent past or long ago.

Siskiyou

12 Dec., Thurs.

MEETING. Frank Bedajewski, BLM, will discuss "Current Status of Yew Bark Harvesting in Oregon." 7:30pm in Room 171 of the Science Building at Southern Oregon State College.

STARTING IN JANUARY 1992, the Siskiyou Chapter will meet on the third Thursday of the month!

Umpqua Valley

For information, call Richard H. Sommers (673-3709).

Willamette Valley

16 Dec., Mon.

MEETING. 7pm at First United Methodist Church, Room 225, 600 State St., Salem. Wilbur Bluhm, a local native plant authority, will give a slide presentation on "Native Rhododendrons and their companion plants". For more info., call Kathy Connelly (393-1834).

William Cusick

For information, contact Paula Brooks (523-7564).

BOOK REVIEW: KRUCKEBERG'S LATEST BOOK WILL BECOME BIBLE FOR NORTHWEST ECOLOGISTS

THE NATURAL HISTORY OF PUGET SOUND COUNTRY
BY ARTHUR R. KRUCKEBERG,
A WEYERHAEUSER ENVIRONMENTAL BOOK,
UNIVERSITY OF WASHINGTON PRESS, SEATTLE;
488 PAGES, 400 B&W ILLUSTRATIONS, MAPS, TABLES,
NOTES, APPENDICES, BIBLIOGRAPHY, INDEX.
PUBLICATION DATE: NOVEMBER 14, 1991
PRICE: \$29.95 UNTIL 1/1/92; \$40.00 THEREAFTER.

The Natural History of Puget Sound Country has eleven chapters which cover in detail such topics as geology, climate, water, marine life, forests, lakes, prairies, mountains, native people, and the impact of European settlement. Each shows the stamp of Art's knowledge and understanding of

If you care about Northwest ecology, rush out today and buy Art Kruckeberg's newest book, The Natural History of Puget Sound Country. Why should Oregonians want to own a book about Puget Sound? There are at least three good reasons: as we know, all natural systems on our globe are interconnected and interact with each other; what happens in the state to the north of us, affects us here as surely as that which happens a few miles away. In addition, many of the ecosystems the author describes in colorful detail, including forests, streams, prairies, and mountains, are part of Oregon's natural history as well. And I hope that this outstanding book will serve as an example for the writing of companion volumes on such parts of our own state as the High Desert, the Siskiyou, the Willamette Valley and the Columbia Gorge.

Arthur R. Kruckeberg, a University of Washington botanist and now Professor Emeritus, has long been a friend of the environment. NPSO knows him best as founder of the Washington Native Plant Society and long-time editor of its journal, *Douglasia*. He has lived and taught in Seattle for forty years, and, with his searching mind and formidable intellect, has made himself an expert on Puget Sound ecology. This remarkable book is a synthesis of his knowledge of Pacific Northwest ecosystems and a platform for the expression of his personal conservation ethic. He tells us here what has happened and is happening to the natural world of Puget Sound and then leaves it to the reader to decide what to do about it. Early on (p. xiii), he writes, "Central to the matter of choosing alternatives is understanding, that is the mission of this book." And, near the end: "...the inseparability of humans and the rest of the natural world ..., has been the central theme of my book."

the natural world, and his insistence on careful research. Extensively referenced, the book makes note of virtually all the ground-breaking publications on Northwest ecology, such as Rex Cates' paper on slugs and wild ginger, the many alternative theories on the formation of the Mima mounds south of Olympia, Edmondson's work on clean-up of Lake Washington, and Pellmyr and Patt's observations on pollination of skunk cabbage. In fact, the book is well worth the purchase price for its extensive notes and references on pollination of Northwest plants (although I was sorry that it lacked a discussion of Indian plum pollination, a subject that I know has fascinated the author for many years).

As we have come to expect from Arthur Kruckeberg, the style is personal, the descriptions dynamic, and the writing lucid -- even lyrical. When he describes glaciers on the move, run-off silt rushing downstream, or salmon fighting their way upriver to spawn, the reader feels the cold of the ice, the anguish at the loss of life-giving soil and nutrients, the crash of falling water, the heroic struggle of the fish. While this volume will certainly make a superb text book, it has none of the dryness we often associate with text book style. I predict that once you start Puget Sound Country, you will not be able put it down until you have devoured it all.

One final tough question: did the timber giant, Weyerhaeuser, which endowed the writing of this work, exert editorial influence on the author or editors? Knowing the rock solid integrity of Art Kruckeberg, I would say absolutely not. In fact, in a number of places the book decries present and past forest mismanagement, and several of the fine photographs reveal the horrors of the worst kinds of logging practices. In one place (p. 118), Kruckeberg writes, "Alas! Hardly anywhere along the shores of Puget Sound can we expect to find samples of old growth forest not modified by

humans." In the chapter on mountains, we find (p. 321), "Many fine stands of Pacific silver fir are being logged in patch or clear cuts,... eventually it may be only in national parks or natural area preserves that one can stand in awe of montane forests dominated by this species." And later (p. 416), "And now, in the twentieth century, the juggernaut of exploitation and development continues its careening path across our land." I, however, would have liked a more detailed indictment of the forest industry for past excesses. For example, in the chapter on water, although there is a good discussion of exacerbation of erosion by logging roads (p. 376), the connection is not made between clear-cutting and catastrophic flooding. And, in the section on forest ecology, I was disappointed not to find mention of the study by Harmon, Ferrell and Franklin (*Science*, Vol. 247, pp. 699-701), which showed that the amount of CO₂ released to the atmosphere as a result of clear-cutting far exceeds the amount of carbon which can be removed by young Douglas fir plantations.

However, do not let this minor criticism prevent you from owning this very fine book. I predict that *The Natural History of Puget Sound Country* will be the Pacific Northwest ecologist's bible for many years to come. You will certainly want to read this book.

—Rhoda Love
Emerald Chapter

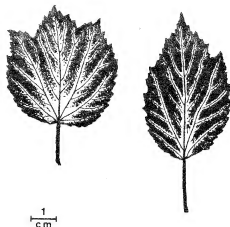
ANNUAL MEETING ANNOUNCEMENT

The High Desert Chapter (Bend) wishes to announce that they will host the Annual Meeting on Friday, Saturday and Sunday June 5th, 6th and 7th 1992 at the Malheur Field Station, 60 miles south of Burns. Field trips are tentatively planned for the Trout Creek Mountains, a visit to an ancient ponderosa pine forest, the salt deserts and hot springs of Mickey Basin, the *Stephanomeria* ACEC, and a plant tour around and on Steens Mountain. Mark your calendars now!

—Stu Garrett
High Desert Chapter



Lycopodium sicheense, Sitka clubmoss
Drawn by Jeanne R. Janish, from Hitchcock & Cronquist's *Flora of the Pacific Northwest*



THE PLANT PUZZLE

Sponsored by the Siskiyou Chapter

Do you recognize this plant?
The first person to give the correct scientific name will win a prize.
The illustrated leaves are from a native woody species.

Send your guess on a postcard to:

Peter Zika
4230 NW Clubhouse Pl. #1
Corvallis, OR 97330

Barbara Rupers of Salem solved the September puzzle: *Ribes niveum*, the snow or Snake River gooseberry.

CONSERVATION GROUPS MAKE JOINT EFFORT TO CREATE INTERPRETIVE PROJECT IN MEMORY OF SALLIE JACOBSEN

Sallie Jacobsen was an active and inspiring member of a number of environmental groups. Some of them independently started collecting funds for commemorative projects in her name. When we learned about each other's plans, we decided to join forces and pool our money. The groups that have teamed up include the Environmental Educators Association of Oregon (EEAO), the North Coast Chapter of the Native Plant Society of Oregon (NPSO), the State Board of the NPSO, and Sallie's NPSO subcommittee on the Wise Use of Native Plants in Landscaping. The subcommittee realized that we couldn't raise enough money for a research grant to study methods for stabilizing dunes with native plant species. When combined, the funds now amount to more than \$950. We need at least four or five hundred dollars more to begin the project we have in mind.

The memorial project that we have decided upon is natural history interpretation at Cape Meares State Park. The park was one of Sallie's favorite places, located almost in her backyard. The main natural history interpretive stories to tell in the park involve seabird colonies, other birds that can be seen at the park, gray whales, the old growth forest and a few coastal plant species. The primary goal of the group is to design and install at least one interpretive sign featuring the birds that can be seen while visiting the park.

Coincidentally, the Friends of Cape Meares had also been raising funds for several interpretive signs on history of the lighthouse, whales and birds, but they didn't quite have enough money. They decided to coordinate with our group. The US Fish & Wildlife Service is responsible for managing the nearby nesting seabirds, which number more than 10,000 individuals and represent six species, including the tufted puffin. USFWS will act in a consulting role and may provide artwork.

The State Office of Oregon State Parks will review the concept and design of each sign and the overall siting of all the interpretive signs at Cape Meares State Park to insure good placement for current and future development. The Cape Look-out State Park District will also review the overall plan. They will install the interpretive panels.

The sign will probably be a 3' X 2' panel made of highly weather- and vandal-resistant materials. It will feature illustrations, written information and a photo or illustration of Sallie (watching birds, perhaps). This will be embedded in fiberglass, mounted on marine grade plywood and framed with anodized aluminum. Any extra money will be used for additional signs or other aspects of natural history interpretation in the park.

Jim Winslow, North Coast Chapter President, will serve as coordinator of the memorial project. You may send tax deductible contributions to:

Jim Winslow
8750 Valley View Drive
Tillamook, OR 97141

Please make checks out to "North Coast Chapter, NPSO", and note on the check that it is for the "Sallie Jacobsen Memorial Fund". If you have already contributed, you have our thanks.

Marjorie Willis
Willamette Valley Chapter NPSO

SEEKING SEDGES

The Oregon Natural Heritage Program is reviewing the contemporary status of some sedges. These species may deserve rare, threatened or endangered status in Oregon. If you recently collected or suspect you may have seen populations of any of these species, please contact Peter Zika (4230 NW Clubhouse Pl. #1, Corvallis OR 97330; (503) 753-9514).

Carex backii
Carex brevior
Carex dioica
Carex norvegica (including *media*, *vahlilii*)
Carex occidentalis
Carex retrorsa
Carex serratodens
Carex tenera
Carex whitneyi
Scirpus lineatus

--Peter Zika
Corvallis Chapter

RECENT NAME CHANGES IN *ADIANTUM* and *STELLARIA*

Cathy Paris (1991) studied the *Adiantum pedatum* complex in North America and concluded that the Western maidenhair fern deserves the rank of a separate species: *Adiantum aleuticum* (Ruprecht) Paris. She also has found small populations of this taxon disjunct on serpentine substrates in northeastern North America, and are distinct from the Eastern woodland *Adiantum pedatum sensu stricto*.

Another Oregon species, *Stellaria longipes*, longstalk starwort, was recently revised by Chinnappa and Morton (1991). All the varieties listed for Oregon in local manuals were lumped into *S. longipes* Goldie spp. *longipes*. The only other subspecific taxon remaining is the new combination *S. longipes* spp. *longipes* (Raupe) Chinnappa & J. K. Morton, an endemic on sand dunes along Lake Athabaska, on the border of Saskatchewan and Alberta.

LITERATURE CITED

Chinnappa, C. C. & J. K. Morton, 1991. "Studies on the *Stellaria longipes* complex (Caryophyllaceae -- Taxonomy)". *Rhodora* 93: 129-135.

Paris, C. A., 1991. "*Adiantum viridimontanum*, a new maidenhair fern in eastern North America". *Rhodora* 93: 105-122.

--Peter Zika
Corvallis Chapter

In Memory... Ray Godfrey

On Monday, October 7th, Ray Godfrey died from a heart attack. Ray spent a lot of time discovering plants in southwestern Oregon and truly was a unique individual. This past summer, He and Frank Callahan led a field trip to see *Calochortus coxii*, the plant they had recently named. He will be greatly missed by those of us in Southwestern Oregon.

--Barbara Mumblo
Siskiyou Chapter

WILDLIFE AND VEGETATION OF UNMANAGED DOUGLAS-FIR FORESTS

This new 533 page publication from the Pacific Northwest Research Station of the US Forest Service promises to be an important resource for land managers, ecologists and others interested in the survival of native plant and animal species. This will be especially true if their survival depends on old growth forests. Written by an interagency group of scientists, biologists, and land managers, the book is the result of ten years and two million dollars of research carried out by the Forest Service Old-Growth Forest Wildlife Habitat Research and Development Program. The book is a combination of 37 papers from a 1989 symposium titled "Old Growth Douglas-fir Forests: Wildlife Communities and Habitat Relationships". Technical coordinators of the book are Leonard Ruggiero, Keith Aubrey, Andrew Carey and Mark Huff.

This research program set out to identify plant and animal species either dependent on, or finding optimal habitat in, old growth Douglas-fir forests, and to delineate their biological requirements and ecological relationships. The program also sought to define and inventory old growth Douglas fir forest ecosystems.

The research shows that old growth forests provide habitats very different from those of younger stands. It showed that some species require certain features of old growth--such as tree cavities or foliage patterns found only in the interior of large old growth stands. The concept of 'species guilds' is emphasized in the book. Species guilds consist of species which share in the use of specific environmental features. 24 species or species guilds are identified as "closely associated" with old-growth Douglas-fir forests; another 68 are listed as "associated".

It is also shown that forest structure, habitat relations, and species distribution and abundance varies widely both within and between geographic regions within the study area. This means developing region-wide management strategies may not be possible because of the need to tailor planning to local realities. Aubrey states that "We now clearly understand that very complex issues are involved in determining the kinds, amounts, and arrangements of environments needed to ensure the viability of plant and animal populations".

--Bryan Boyce

POSTERS, NOTECARDS,

T-SHIRTS, DECALS....

These Attractive NPSO Products Make Wonderful Gifts and Show Your Support of NPSO Activities! Available from your Chapter and at some Chapter events, and as noted below.

★ **POSTERS**—The NPSO State Organization is currently sold out of wildflower posters. Some chapters still have it available. Also, Emerald Chapter President Jenny Dimling has a quantity on hand. Contact her at PO Box 920, Eugene (343-3242). The currently available poster will not be reprinted. An all-new poster is in the works. Watch this space for details about the upcoming release of our new poster series.

★ **NOTECARDS**—The new NPSO notecards feature seven rare plants illustrated by Julie Kierstead plus one by Eugene artist Valerie Sloane. Printed on pastel parchment-style paper in beige, grey blue and green with matching envelopes, these notecards make lovely gifts. Proceeds go to the NPSO's Rare and Endangered Plant Fund. The collector quality works include Gentner's fritillary (*Fritillaria gentneri*), Kamchatka lily (*F. camchatcensis*), red clintonia (*Clintonia andrewsiana*), Myrtle Creek mariposa (*Calochortus coxii*), Barrett's penstemon (*Penstemon barrettiae*), rough popcorn flower (*Plagiobothrys hirtus*), triplet lily (*Triteleia laxa*), and Gorge daisy (*Erigeron oregonus*). For further information or to order via the mail, contact Nancy Fredricks at (509) 427-8778, Box 127, North Bonneville, WA 98639. For an example, see the illustration on page 144.

★ **T-SHIRTS**—Available through your local chapter, or these can be ordered through Jenny Dimling PO Box 920, Eugene, OR 97402 (503) 343-3242. They are in a variety of colors. Sizes and designs available are, in unisex sizes:

NPSO logo in S short and long sleeved.

Cornus canadensis in short and long sleeved L & M.

Darlingtonia in short sleeved M, long sleeved M & L, and sweatshirt S.

Delphinium leucophaeum in short sleeved XXL, XL, & S, and long sleeved S.

Erythronium in short sleeved M, and long sleeved M & S.

Lomatium bradshawii in short sleeved S.

Opuntia in long sleeved S.

Pediocactus in sweatshirt S.

Polypodium glycyrrhiza in short sleeved M and sweatshirt XL, L & M.

Trillium in short sleeved XL & L.

Viola glabella in short sleeved XL, L & M.

★ **DECALS**—Our official trillium logo is featured in green on an opaque white background. They are designed to go on the inside of your car or other windows. Order from the High Desert Chapter, c/o Stu Garrett, 21663 Paloma Drive, Bend, OR 97701. They are \$1 each with a minimum order of five.

BITS AND PIECES

—NEWS AND INFORMATION FROM ALL OVER

NPSO SPEARHEADS PETITION TO LIST SEVEN ENDANGERED PLANT SPECIES

Five statewide environmental groups have banded together to petition the US Fish and Wildlife Service (USFWS), asking that the Service list as endangered seven of Oregon's rarest plants. Scientific data on the seven have been accumulating over the last few years, and were used as the basis for the petitions. Information has been collected by botanists associated with the Bureau of Land Management (BLM), the Native Plant Society of Oregon (NPSO), USFWS, universities, and the State of Oregon.

The seven species are:

Amsinckia carinata, Malheur Valley fiddleneck
Astragalus sterilis, barren milkvetch
Eriogonum crosbyae, Crosby's buckwheat
Ivesia rhypara var. *rhypara*, grimey ivesia
Mentzelia mollis, smooth blazing star
Mentzelia packardiae, Packard's blazing star
Senecio ertterae, Ertter's senecio

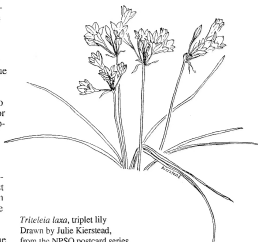
Organizations joining the NPSO in petitioning are the Portland Audubon Society, the Oregon Natural Desert Association, the Oregon Natural Resources Council, and the Concerned Citizens for Responsible Mining. Proposed large scale cyanide heap-leach pit mining operations seriously threaten the continued survival of the plants.

Stu Garrett, NPSO Eastside Conservation Chair, states that "These plants are the rarest of the rare. They are species which have adapted to the unique conditions found in certain areas of Oregon's High Desert. These species are clearly at risk of extinction in Oregon's current gold rush". Due to the fact that these plants are "indicator species" for gold-bearing rock, they face extensive loss of habitat from mining. The species are commonly found only on specific rock types, which happen to be the types containing gold ore. One species included in this petition has already seen one-quarter of its known sites destroyed by mining activities in adjacent Nevada. The plans for the first proposed cyanide technology goldmine in Oregon include creating an large open pit on part of a rare plant population, and placing the overburden on most of the rest of the population. It is precisely this sort of lack of awareness and planning that the NPSO hopes to change by listing these seven.

NEW CHAMPION DOUGLAS FIR FOUND IN OREGON COAST RANGE

An enormous Douglas fir growing in Coos County old growth has just been identified as probably the largest tree of its species. 338 feet tall, it is over 34 ft. around at breast height. The American Forestry Association system for measuring national champion trees, which uses a combination of height, circumference and crown spread, gives the tree a score of 764 points, two more than the previous champion in Olympic National Park. Trees with a rating within five points are listed as co-champions. Official measurement of the Oregon giant was done by Bob Young, a forester with the Oregon Department of Forestry.

The tree was found by elk hunters several years ago on Bureau of Land Management land but was not reported until this year. No trail exists in the area. It is located about three miles northeast of Sitkum, near the east fork of Brummett Creek, about half a mile off the nearest road. The BLM is preparing a brochure about the tree that will include detailed directions to it.



Trileleia laxa, triple lily
Drawn by Julie Kierstead,
from the NPSO postcard series,
"Oregon Rare and Endangered Plants"

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NOTECARDS	Nancy Fredricks	Box 127, North Bonneville, WA 98639; (509)-427-8778

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GUIDELINES FOR CONTRIBUTORS

The *NPSO Bulletin* is published monthly as a service to NPSO members and the public. Contributions of all types are welcome. **DEADLINE** Copy is due with the editor by the 10th of each month. **Text Format:** Submissions can be in any form. Camera-ready copy should be in 3.334 in. wide columns up to 9.3 in. long, with 22 in column spacing. The *Bulletin* uses 12pt. "Times" font. Author's name and affiliation are added at the end of the article. Do not indent but double space between paragraphs. For special materials (e.g., plant keys) choose an appropriate format, keeping in mind that readers may wish to carry your article posted inside their favorite field guide. **Computer output:** The editor prefers articles submitted on Macintosh or IBM disks, or via Macintosh modems. Contact the editor for details.

Illustrations: Line drawings, prints, and high contrast B&W prints are useable. Some Macintosh graphics can be used also. Contact the editor about our current needs, or send them along with your article. **Credits:** If the item is not original, name and date the source. For original items, identify the author and indicate, for news items, if a by-line is desired. Indicate whether the item is to be used in its entirety or excerpted at the editor's discretion. **Scientific Names:** Nomenclature should follow *Flora of the Pacific Northwest* by Hitchcock et al., when appropriate. Use both scientific and common names if possible. *Italicize genus and species (underline, if italic is not available).* **Return of Originals:** Submissions are not returned unless requested.

Membership in the Native Plant Society of Oregon is open to all. Membership applications, renewals, and changes of address (include old address and zip code) should be sent to the Membership Chair.

NATIVE PLANT SOCIETY OF OREGON MEMBERSHIP FORM

Name _____ Chapter (if known) _____
 Address _____ Is this a change of address? _____
 If so, please write your Old Address here: _____
 City _____ State _____ Zip+4 _____
 Phone (Home) _____ (Work) _____ City _____ State _____ Zip _____

* **DUES** include monthly NPSO *Bulletin*. Full membership is for a calendar year, January through December. New memberships enrolled during September through December are charged a reduced "Quarter Membership" rate.

() New	() Renewal	() Quarter Membership (Sep.-Dec.)	\$3.00	() <i>Bulletin</i> Subscription only	\$12.00
() Student			\$ 8.00	() Sustaining	\$ 30.00
() Regular			12.00	() Patron	100.00
() Family Membership			18.00	() Life Member	500.00

* CONTRIBUTIONS:

Jean Davis Memorial Award Fund	\$ _____
Leighton Ho Memorial Award Fund	\$ _____
Rare and Endangered Plant Fund	\$ _____

* All contributions to the Native Plant Society of Oregon, a non-profit organization, are tax deductible. Please make checks for dues and contributions payable to NATIVE PLANT SOCIETY OF OREGON. Send completed form and full remittance to:

Jan Dobek, NPSO Membership Chair, 2584 NW Savier St., Portland OR 97210-2412.